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AMERICAN ARTISAN and Hardware Record

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**When you hang PLECKER'S you do a good job.
They cost no more but give more service**

FOR many years we have specialized in serving our customers with this well known brand.

It is, of course, easy for you to understand that it must be satisfactory or we wouldn't be specializing it because it wouldn't be selling.

But it is really more than satisfactory—it is better, lasts longer and is priced right.

We believe you'll always use Plecker's if you use it once.



THE main thing about the conductor pipe and trough you hang is their lasting qualities. Plecker's is made of Keystone Copper Bearing Steel.

This metal is exceptionally durable, less affected by weather conditions than others and is famous for its rust and corrosion resistance.

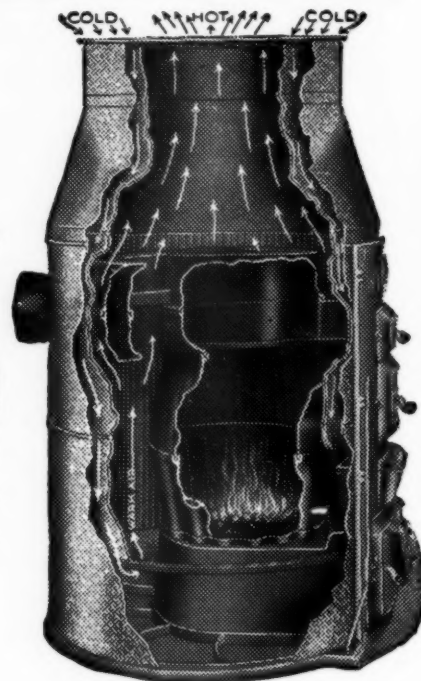
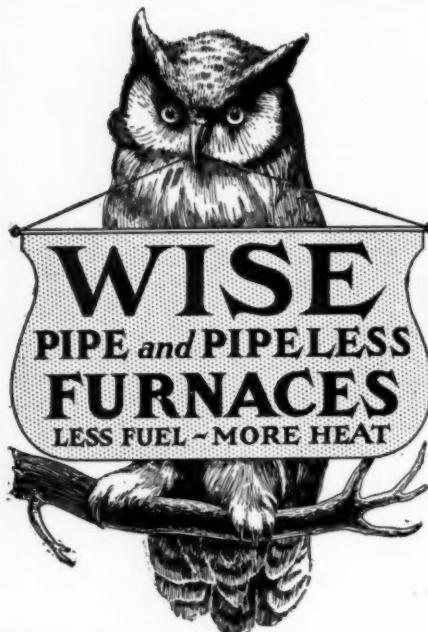
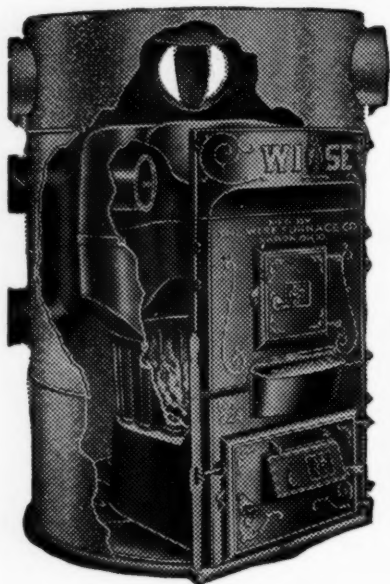
Why not get a case now—Plecker's conductor pipe comes in handy 10 ft. lengths.

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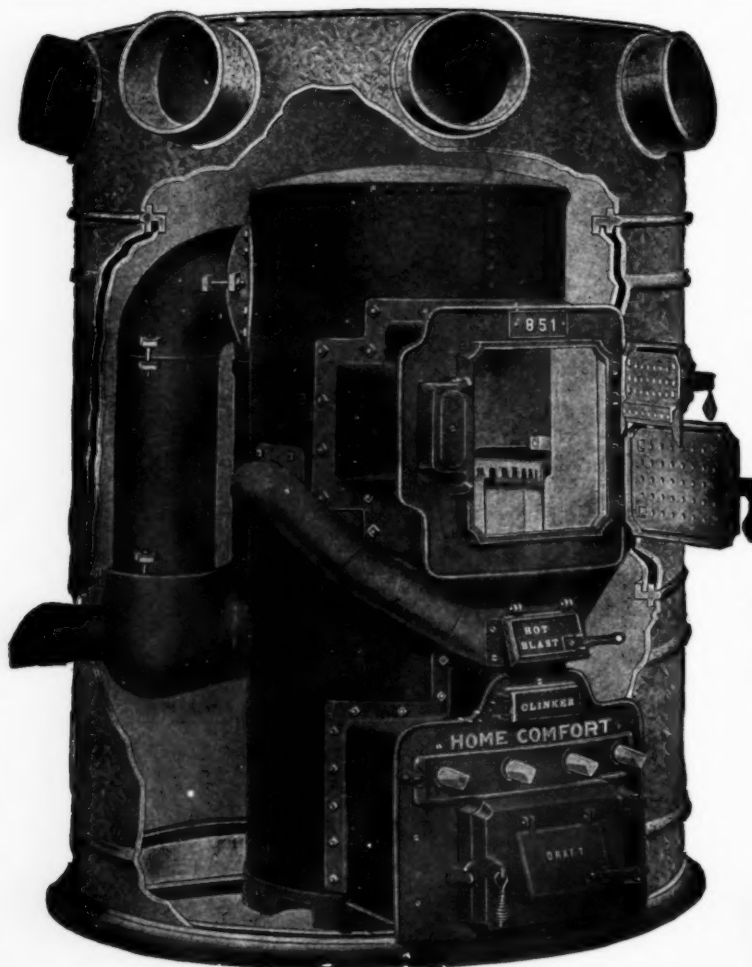
CLARK-SMITH HARDWARE COMPANY
PEORIA, ILLINOIS

PLECKER'S GALVANIZED
*Corrugated Conductor Pipe
and Eaves Trough*

The Wide Awake Dealer's Choice



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WARM AIR HEATERS

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That's where the "Home Comfort" features become valuable to you.

Your prospects can understand that steel won't crack—they can see that boiler-riveted joints can't leak soot into the rooms and that a large radiating surface gives them greater volume of warm air.

That's why "Home Comfort" Warm Air Heaters have been giving comfortable heating service to thousands of users for many years.

Our latest catalog together with our Dealer Sales Plan will interest you.

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Thoroughly Covers
the Hardware, Stove,
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Warm Air Heating and
Ventilating Interests

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WAGE INCREASE IS NOT ALWAYS BEST WAY OF REWARDING GOOD WORK.

A concern which in less than a decade in Chicago has built up a business, running into millions, recently published an advertisement in the dailies of that city, in which statements were made about the sick benefits that it had paid to its employees; how much money it had loaned at low interest to them; the amount of group insurance it had paid to them; the free hospital, dental and legal service it had rendered to them, free of cost, etc.

And the next two paragraphs read as follows:

"Bear in mind, please, that this remarkable success is due in large measure to the fact that the employees, from the President down to the office boy, are stockholders, that every employee is squarely dealt with and the highest form of co-operation has therefore resulted.

"In conclusion, we wish it known that a selfish business purpose has alone inspired this Company and its plan of operation. It is in no sense philanthropic. Yet it shows that real money can be made by square dealing with the public and the employees, with the management officiating as referee so that each may have an even break."

And in another paragraph:

"Theories to one side, and facts alone considered, the great result has been the biggest taxicab company in the world, the absolute confidence of the public, and an army of earnest workers who realize that they are a necessary and desirable part of the community," etc.

The Yellow Cab Company is not the only corporation that operates on the principles set forth, or on principles of similar tenor.

In fact, many of the most successful industrial and commercial enterprises are being conducted on the basis that the employee must not only receive a fair wage but that he should also have an opportunity to secure a share in the net profits of the enterprise—either by purchase of stock at a low price, or by some other means.

And it is significant that in none of these organizations has there been any industrial warfare, such as occurred last year in the coal and railway fields.

It is not always possible, nor would it always be good policy, to increase a man's direct wages beyond a certain point, no matter how valuable his services may be, but the appreciation of his services can be expressed by some such manner as indicated in the foregoing.

To add, for example, ten cents an hour to a sheet metal worker's pay might result in the loss of several good jobs on which, while the profit might be very good, the bidding was close.

The ten cents an hour would amount to \$240.00 in a year of 300 working days, and a bonus of this amount might be a comparatively easy matter to take out of the net profits at the end of the year, while if the ten cents had to be figured in on every job during the year, there might not be any net profit at all.

Such

Random Notes and Sketches.

By Sidney Arnold

I can sympathize with the meek-looking individual who, with a surgical bandage round his brow, a black eye and a long scratch down his cheek, walked into a provincial newspaper office.

"You have some professional humorists working on your linotype machines?" he asked a sub-editor.

The sub's reply was a haughty stare.

"Do you read your own paper?" went on the small, inquiring voice.

"Occasionally."

"Did you read my poem entitled 'To Cynthia' in your last issue?"

"Er—I'm afraid——"

"I thought not. In that poem I wrote a line that read: 'I love you better than I love my life.'"

"Yes? A very neat line."

"And one of your linotype operators put it: 'I love you better than I love my wife.' I'm a married man, and my wife read it. And—and—well, look at my face!"

* * *

"Down in the land of the cotton and moonshine, there is quite a difference between chickens and money, when it comes to stealing them," says Charlie Gohmann, the "Pointer" range maker, as will be seen from the following:

Rastus was serving his first term in jail after a life of petty thieving, from the consequences of which he had managed to escape through a general public indulgence. When he fell so far from grace, however, as to steal a small sum of cash it was decided to discipline him, and his conviction was speedy. To his parson who came to visit him Rastus made his lament.

"Rev'rend," he said, "all my life Ah done stole chickens and sechlike, but not til Ah takes dis triflin' amount o' money has Ah evah suffered dis indignation."

"Son," replied the parson gravely, "de Book says that money is de root of all evil, an' Ah tells you dat

when you starts to tamper wid dat root, de white folks simply will not stan' fo' it."

* * *

Purdy is the name of the "colored gentleman" who keeps the floor clean and the desks dusted in the office of Tom Henry, the genial furnace manufacturer near the great viaduct in Cleveland. This same Purdy showed up at the office one morning very much out of humor. The boss decided to find out what the trouble was.

"Purdy, what's the matter?" he asked. "You act as if you'd lost your best friend."

"Nossuh, not jes' zackly dat," the aggrieved janitor replied. "Ain't los' no frien'. Ah's jes' 'sulted."

"Insulted? And who insulted you?"

"Dat no 'count black trash Dawson—he's de boy dat 'sulted me. Yassah. Done called me a liah, dat's what Dawson done."

"Dawson called you a liar! That's pretty bad! And are you?"

"Boss," exclaimed Purdy, "dat's jes' it! Dat's jes' it!"

* * *

At the recent meeting of the Western Warm Air Furnace & Supply Association, Dr. Wagner, of the Success Heater people, was talking about the tendencies of the times, when A. B. Meston of the Quick Furnace & Supply Company, interrupted with the question as to what the Doctor really meant with the word "tendency." Here is how our friend illustrated:

"An' how is Patrick, Mrs. Callahan?" asked one of that lady's neighbors. "Poor boy, what do th' doctors say av his loongs?"

"He says there's never a thing th' matter wit' Patrick's loongs now," replied Mrs. Callahan, "but he ain't denyin' they've got th' laste might av a tindincy."

"Wurra, wurra, an' is that so now?" exclaimed the neighbor dole-

fully. Then she asked with some deference after a pause, "An' what might a tindincy be, Mrs. Calahan?"

"A tindincy," responded Mrs. Callahan with solemnity, "is a thing that ain't to be spoken av lightly. It's where what ain't so already is likely to come on ye unbekownst at anny minute."

* * *

Arthur Lamneck, who can orate about the Federal Constitution, the Eighteenth Amendment and Lamneck's furnace pipe and fittings with equal ease and efficiency, had for his subject at a recent meeting that of credits and to get started right told the following:

A grocer in a New England town went to a deputy sheriff whose word he knew he could trust for information as to a certain Lew Diggs, who had applied for credit at his store.

"Good mornin', sheriff."

"Mornin'."

"You know Lew Diggs?"

"Yup."

"What kind of a feller is he?"

"Purty fair."

"Is he honest?"

"Oh, sure, I should say so. Been arrested twice for stealing, and acquitted both times."

* * *

Ed Stollemyer, of the Walworth Run Foundry Company, is one of those tall, slim fellows who while hearty eaters never seem to gain in weight, so this story fits his case perfectly:

Mr. Swivel was much perturbed to find that the three pounds of meat which he had purchased for dinner had mysteriously disappeared. His wife, aiding in the search and noticing what she took to be a guilty look on the face of the family cat, pointed to it, and said:

"There's the meat."

"Why, no," objected Swivel, "that little thing couldn't get away with three pounds of meat. Still, let's weigh her and find out."

They did so. The scales registered an even three pounds.

"Yes," he admitted in puzzled tones, "there's the meat all right, but where's the cat?"

Honesty of Purpose Is Keynote to a Successful Sales Policy, Says Speaker at Sales Conference.

Message of Better Heating, Merchandising, Installation and Ethics Is Given to Salesmen by John P. Wagner.

Written for AMERICAN ARTISAN AND HARDWARE RECORD by A. W. Little, Chicago.

GOING to a sales conference is a real pleasure when one is carried away from the practice of having to listen to the time-worn command: "Now, boys, go get 'em," "Get them with a Bang," "Orders, *ORDERS, ORDERS*, etc., *OLD STUFF*."

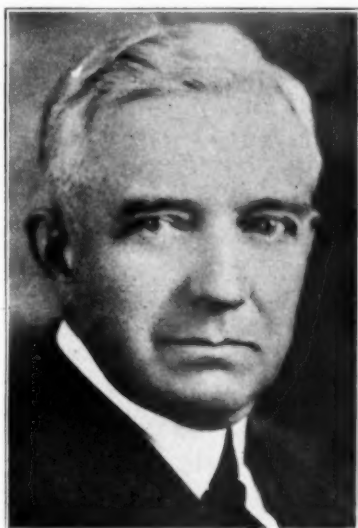
Last week I had an agreeable surprise and a new inspiration, yes, a real, lasting thrill—when I was privileged to attend the sales conference of the Success Heater and Manufacturing Company.

Some conference! My invitation read, "For old time's sake, come and write us up. We are going to present a brand new idea in sales conferences."

I was anticipating a real feast and believe me we had plenty to eat and good water to drink and what more could we wish for. We were told that man does not live by bread alone but must have real, inspirational food. *Did we get it?* Well, that is the real meat of this wonderful treat we had, from beginning to end we had something to do—moments, hours and days passed before we realized the flight of time—and every tick of the clock gave us real constructive thought. We attended the school, had real teachers and got real dope that will make it possible for the boys to sell Success Heaters and to know the real merits of a real heater. Monday, Tuesday, Wednesday and Thursday—every day better than the day before.

Sales Manager Colburn had his finger on the trigger—welcomed us with a hearty greeting, kept us in line, until the lunch bell rang, then—introduced Mr. Wagner who told us how glad he was to see us and why we were called in and what we would get out of the conference

if we wanted it. The get-together meeting lasted all afternoon and was a snappy, instructive feast. Then we had dinner and a message from Mr. Wagner that put us on our toes and lifted us into the spirit of the Success Policy and never before did I see a bunch of men drink in more real, constructive thought in so short a time. Mr. Wagner told us of the past career of the



John P. Wagner.

company and then emphatically put to his listeners the fundamentals upon which the present company has built its foundation. Well, the boys realized that the Success Heater and Manufacturing Company had a new idea of Salesmanship and the Sales Conference became an interesting gathering, so much so that prompt and full attendance followed throughout the entire conference.

The Following Are Extracts From Mr. Wagner's Speech.

The subject of my address to you tonight is intended to inspire you along the lines that nothing is so big that can not be done when determination prompts one to unravel

perplexing and intricate problems. I want to show you that the word "can't" should be in no man's vocabulary. When you see that jack-ass cartoon in the next house-organ about kicking the "T" out of "can't" it will illustrate my point.

As I reflect for a moment upon the past I am convinced that men who stand on the platform of "right doing" grow in the experience that makes it possible to lessen the failures in life, and as I reflect the happenings of the past two years dealing with the rehabilitation work of this company, I am firmly convinced that the *policy* upon which this work was done has won out for me again as in previous times, for without the confidence placed in our *policy* and backed up by the fullest measure of cooperation by the men with whom I had to deal, it would not have been possible for us to be here tonight.

Our faith and our hope would not be as it is tonight nor would we have the assurance with which we are filled if it were not that we have been strengthened by the definite and positive demonstrations of the efficacy of *right doing* to all concerned.

You have read in our bulletins, the *policy* upon which our business is being conducted and we shall continue to conduct ourselves so that the high standard set forth in our declaration of policy shall guide us in all of our conduct. There is every evidence at our command to prove that the things that some folks have said could not be done, have been done which proves that in truth, confidence and loyalty there is the strength which men respect.

When I first stepped into this industry in 1920 it was a prayerful moment and all that I asked for was

understanding and upon this appeal my efforts were directed and while we have not yet fully worked out all of the problems, we are well on the way and content in our assurance of a solution of the problems.

As I look into your faces I see an expression of that same desire that I have, and if you turn that desire into more studious application, you will find that you have the key to the great wonderful thing that we are all wishing for, all praying and longing for, and that is *peace, comfort and harmony* where paradise is nowhere but here, where all things are good, where all men are good as can be and will be better when they know better, where you can overcome the petty things and where you can make progress even among the heathen and the thief. That to me is simply the fore-runner of the young men who went into the fiery furnace, and the "Daniel in the Lion's Den" and I find that there is no other things worth while.

Money—Money—Money — Dollars and Cents. We are measuring things by money. We measure the worth of men by money, and I am not talking to a bunch of millionaires, but if I were I would not say anything else nor have I ever failed to say it. Money is the greatest curse of the whole universe, but when we have understanding then the desire to do good to the other fellow is the compensation. Money is simply a means of exchange. Thus is my problem solved in the measure that I give service unto you. That is why I am more interested in you than in any other phase of the personnel that means so much to this institution. Without a sales organization we can't go on. We must market our product, and we can not well get along without you. We must fit into one another, we must stand for our policy, for a principle, and you are the fore-runners taking out the product, and the message of what this institution stands for, and the merchant must be thoroughly sold with this in mind.

Men who deal with anything but the truth have a hard row to hoe.

Some folks excuse themselves by what they call telling innocent falsehoods and harmless exaggerations. Let me impress you with this one fundamental, that there is but one kind of truth and one kind of lie. We must stand for one or the other, no other thing would be a manly thing to do.

A real man to me is one who believes in a supreme being, who fears nowhere or at any time to express himself to the fullest limit of his understanding, which in fact he always does. The real man is the man who first believes in truth, honesty and integrity and who has no other desire than to do unto his fellowman as he would have him to do unto him.

Some folks quote the golden rule as, "doing him first before he does you," some measure all things with a changeable tapeline which shrinks and stretches.

It always gives me great pleasure to see a man with an accurate method of measurement, for it proves much of his general conduct. There is only one road to *success* and that is by means of the golden rule.

I have more interest in each one of you individually than I have in myself. I can not see much of reflection as I look at myself in the looking glass, but when I see the reflection coming back from you that you believe in what we stand for, that is real reflection that no silvered glass can give. This company's *policy* is to make a good product and to sell it honestly.

We are going to represent the truth. We are going to maintain integrity and preserve that which we have built, and guard it as faithfully and ardently as anything we have. We are going to say to you that there is no enemy in the field against us. We have positively declared and insist that we want no mention of a competitor in the way of a comparison or knock. I don't want you to lie about the other fellow. Go out with the assurance that you have a product that is worthy of putting in your fullest measure of effort and confidence.

Labor with us faithfully and patiently as to the merit and the service of our product, that we might convince you if possible. We want you to be free and open. We are all in the school of progress. If we don't ask questions we never know anything. Like the boy and his mother. He kept asking her a question to which she replied, "you are not yet old enough," then he said, "I am old enough that I am going to find out," and he did. It is easier to be open and frank. It helps others. Learn with the other fellow. I know from my own experience that the fellow who gets the most out of anything is the one who asks the most.

Cooperation is a big factor in every institution and we ask you to give us your fullest measure and we pledge to you our every consideration and cooperation to fulfill all that we have declared in our policy. Working together is the keynote of harmony, and success will be the result for all concerned.

Tuesday's Session opened with great interest. It was announced as Production Day. Superintendent Somers, who was in charge, took us through the factory, where we were acquainted with the manufacturing operations in the production of Success Heaters. The remainder of the day was taken up in further practical education in warm air heating. * * * The installation code adopted by the National Heating and Ventilating Association. The Midland Furnace Association, the Western Warm Air Furnace and Supply Association and the National Sheet Metal Contractors' Association were then thoroughly discussed and approved.

Mr. Colburn continued his school of instruction for better heating and sales practice, a part of the conference in which the boys were particularly interested. The details of Success Heaters were gone into thoroughly and the boys now know just how the product they sell is constructed and what it means to the dealer and consumer. They know its superior qualities.

My anticipation for the doings

of Wednesday was at a high pitch and when I met the boys at breakfast it was very much manifest that all of them were looking for the big treat of the conference. By this time we knew that this conference was full of new ideas about sales policy and that the Success Heater and Manufacturing Company has a big vision. Well, the boys particularly noticed that they were in a new atmosphere, which was free from the old stuff and appreciated that they were being lifted into a new attitude of harmonious action.

The session started off with live interest—by this time the boys were doing the talking and they put in the time to good advantage at the blackboard to illustrate and demonstrate their understanding of better heating and sales practice.

As I stated before, the entire conference was free of the old idea. There was no scolding, no flattery, no exaggeration, no falsification, no hip, hip hurray, no knocking, no instructions to indulge in any sharp practices.

This sales conference took on from the beginning a progressive, constructive atmosphere and no stronger evidence of this was manifested than the way the boys were brought into a receptive attitude to meet the feast of the conference. As we gathered around the table Wednesday evening it was quite evident that we were going to have a good time. *Who was there? Why every mother's son of 'em!* from the shores of the Atlantic to the foothills of the Rockies. The pep and ginger quartet was there singing: *You can turn the dampers up, You can turn the dampers down, But the smoke goes up the chimney just the same.*

S-u-c-c-e Double S, that's the way to spell Success, etc.

The movie men were there with several reels of Real Salesmanship message and when the Knights of Salesdom had partaken of all the good and plenty to eat they were quite ready to hear Mr. Wagner's address, "*The Ideals of Real Salesmanship.*" Like every other thing that happened we were again taken

by surprise. None of us had ever before heard such a talk on salesmanship. It was far from the old stuff, of *how to get 'em, how to hypnotize them* and that sort of lunk. I'd like to tell you all the things Mr. Wagner said in that talk but space will not permit. We must content ourselves with extracts. Mr. Wagner said in part:

Salesmanship must be based on *honesty of purpose*. I want to show you how the salesman stands in the eyes of the world, to define more clearly the greater force the salesman has with *honesty of purpose* behind him. Individuals, no matter who they are—men, women or children—in all of their steps sell



L. G. Colburn.

themselves to others. We are all salesmen, selling something good or something bad; we are either constructive salesmen or destructive salesmen; we are either part of the positive class or on the negative side. A salesman who goes out as a negative salesman has little value or force and therefore never amounts to anything. When a salesman lacks positiveness he is devoid of power and fails to convince and impress others.

We find the first requisite to become a positive salesman is to know the truth about the things we are trying to sell, to know positively that it is the truth, therefore, the man with truth has a two edged sword that cuts any way he wields it. The man that is positive knows what he is talking about, he knows what he is doing, therefore, has convincing power to bring others to his

viewpoint. It is written that—"ye shall know the truth and the truth shall make you free." It is quite clear that no man is free nor is he comfortable in his own conviction unless he knows the truth about the thing with which he deals.

The high standard of salesmanship is based on *truth*. I can well remember the time when most salesmen that I came in contact with were gigantic liars and were working on the wrong basis. Such practice is fast becoming a thing of the past.

Many salesmen are working on the theory that to study a man's weakness provides the easiest approach and gives the least resistance. This sort of practice is nothing short of trickery and proves the salesman to be weak and lacking of better knowledge. Look for the best and strongest characteristics in every man.

To me your shortcomings mean nothing. I am not concerned in them only insofar that I might say that it helps me to see the big things in you, and that after I have come in contact with you or have communicated with the best there is in you, you are bound to reflect to me the best for my edification.

Now for a little individual thought as to what salesmanship means:

Do you know there is no vocation that means so much to man? I know of no greater collective force for the spreading of advance thought to civilization than the force represented by "Salesmen." He has the greatest field imaginable for the spreading of good and plays a large part in the educational endeavor and therefore should fully realize his responsibility in spreading at all times a truthful message.

I want to say that if this assembly here tonight will go out with the full determination of doing what we are talking about, we can convert the whole United States into using better furnaces, right from this little gathering.

There is only one thing lacking and that is to get down to the fundamentals, the foundation stone of

success: *Honesty of purpose*. We can only progress into the more sublime and more successful surroundings when we base all that we do on *honesty of purpose*.

I want you men to keep this idea in mind from now on; that we are going out, determined never to lie, never to misrepresent anything, whatsoever; that we will spread the gospel of truth about all things and that we will go out to do the greatest measure of good to the greatest number. So to go into a man's place of business and present yourself is your first duty as a salesman. Salesmanship is not a trodding drudge, on the contrary it is a lofty occupation, it is among the headliners in commercial pursuits.

You can always tell what kind of a man you are going to meet when you look into his place of business. Men express exactly what they are by what they say and do, how they dress and live and the order in which they conduct their place of business, for it is written, "By their works ye shall know them."

The simple thing to do is to become students of what you are doing. What is your biggest asset? What is the biggest asset any man has, personally? Study the man that you come in contact with, judge him through your observation, always have in mind to lift him up and to personally benefit by the good he reflects, either to take it all and use it as an improvement in your own conduct or to improve him by your advanced knowledge of better things. Remember that you can not help the fellow that will not help himself nor can you improve if you are not receptive and desire better things. We live in the universal force of knowledge and betterment and it is up to us to adjust ourselves to it. The understanding of this great fact will make you a force for good among men.

Salesmen must be able to know how to approach, how to convince and how to get the confidence and attention of the man on whom they are calling. The world needs more men who realize their responsibility

for doing the greatest good. What is needed everywhere is men of conviction and unselfish service. The furnace industry needs just that sort of men, needs more leaders, more pioneers in promoting one of the greatest factors in home life for the betterment of conditions of health and comfort which in turn will reflect greatest harmony into every phase of social, industrial and business life.

Stimulate your efforts to become leaders, go out and give those with whom you come in contact an inspiration from the new message of the power of *honesty of purpose*. Live it and act it in everything you do. Remember that men are alike in every territory no matter where you may go, you will find that men practice all of the traits that you might find in any other place. Your field is, therefore, large and it is up to you to be busy about the biggest business of doing the greatest amount of good for the benefit of the greatest number. I am absolutely confident that each of you have the same force about you and among you and that each one of you have the power to get into the understanding of the message that you want to give out.

You no doubt have been impressed with the proceedings of the past few days in which you have been schooled as to the *policy* of our company in its endeavor to market its product in a way that will reflect the greatest good to all concerned and it is my purpose to insist that the *policy* upon which this company is operating be brought to the attention of every dealer with whom you come in contact and with every purchaser of the product manufactured by this company and that you live the true spirit of this *policy* in everything you do.

We expect you to measure up to this *policy* and if you do we know that success will be the reward to you as well as to the dealer and the consumer and reflect the full quota of success to us.

As you carry the message into the field, be true, loyal representatives and I am pleased to say that I

believe that each of you are filled with the spirit of the hour, which is evident in the reflection you have given us since the conference began.

We will stand with you, our dealer, and the consumer insofar as the spirit of this message is carried out and I give you my fullest assurance of confidence, cooperation and loyalty and shall exact no less from each of you and the coming year will mark a new era in the history of the Success Heater and Manufacturing Company that will be a credit to all of you and may we meet again with a better knowledge of better things with an inspiration and knowledge of the *power of honesty of purpose*.

A truly inspirational feast filling us with enthusiasm and every one of the boys demonstrated it by what they said in their short talks giving their fullest approbation to what had transpired. The conference was a finished work, an inspiration. A program for 1923 that will bring success to the company and every member of the sales department, was outlined. He said, for fifteen years he had been attending Hot Air Sales Conferences and now he was convinced that a man who used the phrase *hot air* is not the kind of a fellow who can expect to make a hit in the warm air heating game. The boys offered a resolution making it a misdemeanor to use the phrase *hot air* in connection with Success products.

Mr. Wagner in a short talk demonstrated the Modern Methods of Aerology as set forth by Dr. E. Vernon Hill of Chicago, by which the testing of heating and ventilating systems can be brought to practical perfection—following with an instructive discussion on Steel versus Cast Iron as used in warm air heater construction, also the advantages gained by the use of rust resisting ingot iron placing emphasis upon the longer life of heaters made from such material and its greater sensitiveness or ductility.

The conference came to a successful close and when the time arrived for the boys to go to their respective territories they received a

parting message to go into the field and spread the message of better heating, to promote better merchandising, better installation and better business ethics. All with one purpose in mind and that to put truth and integrity foremost in their efforts to bring the heating of homes upon a higher plane, for the better promotion of health and comfort.

As one who was invited from the outside to come in and look on, I am truly glad to have been with the boys at this conference and am convinced that the power of an honest purpose is the foundation of the Success Heater and Manufacturing Company's policy. Will it win? It always has and always will. It's the square deal idea, put in a square way.

New Home Study Course in Heating and Ventilation.

Included in the ambitious program of home-study courses which have been developed by the Extension Division of the United Y.M.C.A., Schools, is one on heating and ventilation. This course has been designed to meet the demands of architects, engineers and contractors, as well as their assistant, who are interested in the proper design of heating and ventilating systems. A review of mathematics is given to prepare the student for the various interesting calculations. Elementary physics of mechanical and heat energy and elementary chemistry of fuels and combustion are included, as well as a general training in drawing. However, students may be excused from this preliminary work by satisfactorily passing an examination.

Following is the full list of the subjects covered: Essentials of drafting; arithmetic, geometry, algebra, trigonometry, reading of drawings, reading of heating and plumbing plans, chemistry, physics, and heating and ventilation. Under the last heading will be taken up physical units and measurement of heat; warm air furnace heating; fan-blast heating; air conditioning; air washing; humidifying; cooling; drying; temperature and humidity.

control; properties of water, steam and air; heat transmission of building construction; heat transmission of direct radiators; radiators for direct heating; fuels and combustion; steam-heating boilers; water heating; heating water in tanks and pools; drafts and chimneys for heating; ventilation air analysis and ventilation laws; gravity indirect

heating by steam and hot water; exhaust steam heating; central station or district heating; pipe fittings, valves and coverings; and estimating.

The cost of the course, including a complete drawing outfit, is \$125.00. The headquarters of the United Y.M.C.A., Schools are at 375 Lexington Avenue, New York.

Know Your Business and Let People Know That You Know Your Business.

*Charles S. Weatherly, Grand Rapids, Michigan,
Tells Folks That He Is the Real Furnace Man.*

IN Grand Rapids, Michigan, there lives a man whom his friends call "Doc" for short, and who calls himself "The Real Furnace Man"—his proper name being Charles S. Weatherly.

"Doc" Weatherly, for that matter, is one of the best known installers of warm air furnaces in Michigan, not only among his fellow business men, but particularly among people who buy furnaces with which to heat houses that they own—and that is the more important of the two, for that means more business of the profitable sort.

And it was not by accident that "Doc" came to have the reputation of being "the real furnace man" of Grand Rapids.

In the first place, he knows the installation "game" from A to Z and he is not afraid of letting people know that he knows.

In the second place, he uses unusual ways of letting people know, such as, for example, an envelope the front and reverse are shown in the accompanying illustration. The wording above is that on his letterhead.

Another bit of his "publicity" is a business card with this inscription on the back:

"The Last Word About Furnaces. You may buy a good one, but if it is not installed right the results will not be good.

"You know that Weatherly is the 'Real Furnace Man.' What is the need of trying others? Fifty years' experience."

The second illustration shows a corner of a room with an unusual arrangement of cold air ducts, these being started from the stairway. The two lower grills are of metal, while the one above the landing is



Figure 1.—Letterhead and Envelope Used by Charles S. Weatherly, Grand Rapids, Michigan.

of wood to match the interior finish.

The cold air from the upper hall drops into the upper grill and the lower grills receive the air from the rooms below.

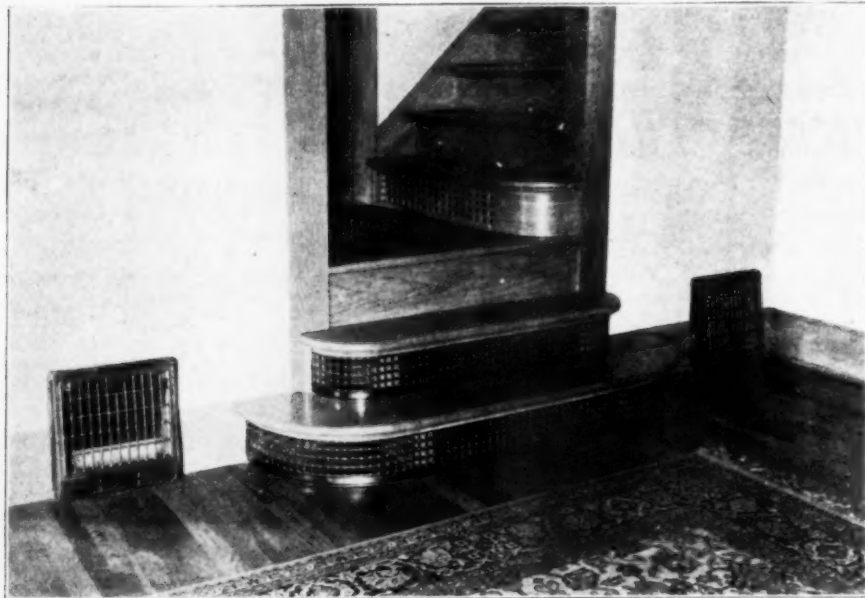
There is a grill in the kitchen, not shown in the picture; into this stairway riser, and there is a galvanized

The inquiries from this advertising will be referred to Keith dealers in different sections of the country for their personal attention, and the prospects will be followed up direct from the factory with a series of very attractive illustrated letters in colors.

The Keith Company has a suc-

which will give the company two or three times its present production capacity. It has always been a policy of the company to fill all orders promptly.

It is the belief of the Keith Company that the American Home is thoroughly sold on modern equipment and that every new home and every remodeled home means a prospect for a furnace. They predict a continuance if not an increase in the building program that has swept the country during the past few months and urge dealers to be prepared to reap the benefit.



Unique Arrangement of Cold Air Faces. Planned by Charles S. Weatherly, Grand Rapids, Michigan.

duct under the stairs leading to the furnace.

There are two other cold air ducts from the lower part of the house.

This makes a neat arrangement and does not cut into the floors or rugs and is more sanitary.

Mr. Weatherly, who designed this arrangement, states that the parties who own the house say that a good many people have called to see the house and they speak of the arrangement of the cold air ducts, and how well they like it.

Keith Furnace Company Launches Advertising Campaign.

A well-rounded campaign of advertising and sales helps for the dealer has been prepared by Keith Furnace Company, Des Moines, Iowa—builders of Keith's Monitor Warm Moist Air Furnaces. An attractive series of advertising in consumer papers is just beginning, starting off with a full page and reducing the space as the campaign progresses.

cessful record of thirty years as furnace builders. They manufacture a complete line, including designs for dwellings, churches, schools, stores, factories, hog houses, etc.

The present campaign is featuring particularly the series A for dwellings. This furnace burns hard or soft coal, has oversize heat radiation surface, one piece radiator and in fact, conforms in every particular to government specifications given out by the War Department in 1917.

The Keith Company very zealously guard their long standing reputation for quality furnaces and the advertising as well as the furnaces are a credit to the company.

A very attractive loose-leaf catalogue is a part of the advertising equipment. The present campaign will without a doubt broaden the market in keeping with the increased facilities of the plant and it is expected that a lot of new and successful dealers will be added to the Keith family. The new plant will be completed early in 1923.

Haynes-Langenberg Raise Prices Ten Percent.

In keeping with the rising price trends of materials entering into manufacture, the Haynes-Langenberg Manufacturing Company of St. Louis, makers of "Front Rank" steel furnaces and furnace supplies, have announced, effective January 1, 1923, an advance of about ten per cent in prices. The announcement adds this explanation:

"The following items enter into the construction of 'Front Rank' furnaces: Steel plates, gray iron castings, bolts, cement, fire brick, and labor. With exception of fire brick, everyone of these items has advanced from fifteen to twenty per cent during the last six months. This moderate increase, therefore, does not cover the extra cost of manufacturing.

"Furthermore, we are unable this year to contract for our entire year's requirements at a fixed price. The raw material manufacturers predict further advances in costs of materials used in our furnaces and as you probably know every wage adjustment in the last six months has been upward and will likely continue so. Therefore, these prices will in all probability be in effect for the first few months of 1923 only."

The harder your competitors work for business, the harder you should work. The harder you should work anyway.

Manufacturers' Dealer Helps Used and Liked by Many Retailers but Are Opposed by Some.

Additional Replies Indicate Lost Motion Between Furnace Maker and Seller.

IN AMERICAN ARTISAN'S annual "Warm Air Furnace Special" there were published the replies of a large number of dealers to the question as to what use they were making of the manufacturers' dealer helps and literature. Lack of space prevented publication of all the replies, and below are reproduced some additional responses:

"We use same cuts and copy that they use in their national advertising to localize their campaign. Also folders and other material sent out by them. Have also used the direct mailing system by sending them a list of prospects."

"Slides—cuts—signs — pamphlets—all are good."

"Couple up our window display with their newspaper ads. Use their house signs. Have factory send literature direct to customer and then we call on customer."

"None."

"Not much."

"None."

"I use the cuts and picture slides and house signs on buildings that I am installing furnaces."

"Electros and etc."

"None."

"I use them to get familiar with my furnace and then refer them to jobs I have installed."

"I use them by putting them out and distributing to the public."

"None whatever."

"Generally follow the suggestion of manufacturer."

"All I can get."

"None."

"We always carry a supply to distribute to prospective customers, also place signs in our territory in conspicuous places."

"Practically none."

"Very little."

"None so far."

"About the only thing of use is blotters."

"Have used cuts furnished by them, but have not got any big results."

"Make no use of it."

"Every possible use. A dealer can never do too much advertising and should use all helps furnished."

"Try to get them before the public."

"Yes, we use all advertising helps we can get. At the present time we have an order in to the manufacturers for 2,000 mailing folders which we expect to send out next week."

"We use them to most every advantage possible."

"Local ads we compose ourselves. We use picture slides every week."

"Use all I can afford to use."

"We do our own advertising in our own way—our best advertising—is first class goods and best of workmanship."

And so it goes. It appears to us there is considerable lost motion here with plenty of opportunity for closer cooperation, between manufacturer and dealer.

National Warm Air Heating and Ventilating Association Will Meet April 18 and 19.

The annual meeting of the National Warm Air Heating and Ventilating Association will be held April 18 and 19, at Cleveland, Ohio.

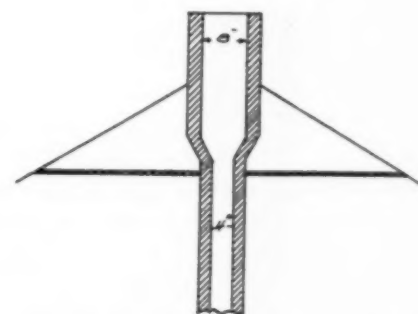
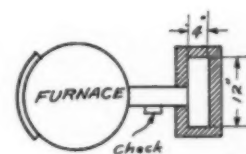
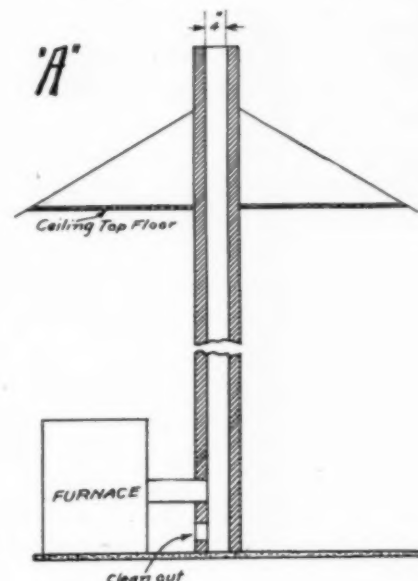
C. R. Oberholtzer Shows Method of Securing Good Draft in Chimney Without Entire Rebuilding.

C. R. Oberholtzer, one of our Indiana subscribers and a high-grade installer of warm air furnaces, shows and describes in the following sketches and letter how he overcame the trouble which is so common where furnaces are installed in houses with small chimneys—the lack of draft:

TO AMERICAN ARTISAN:

Many times I have noticed articles in the AMERICAN ARTISAN, asking information about chimneys with poor draft and in many instances ask what can be done to remedy this poor draft.

I am herewith sending you two drawings of chimneys where I installed new furnaces and supervised the rebuilding of the chimneys.

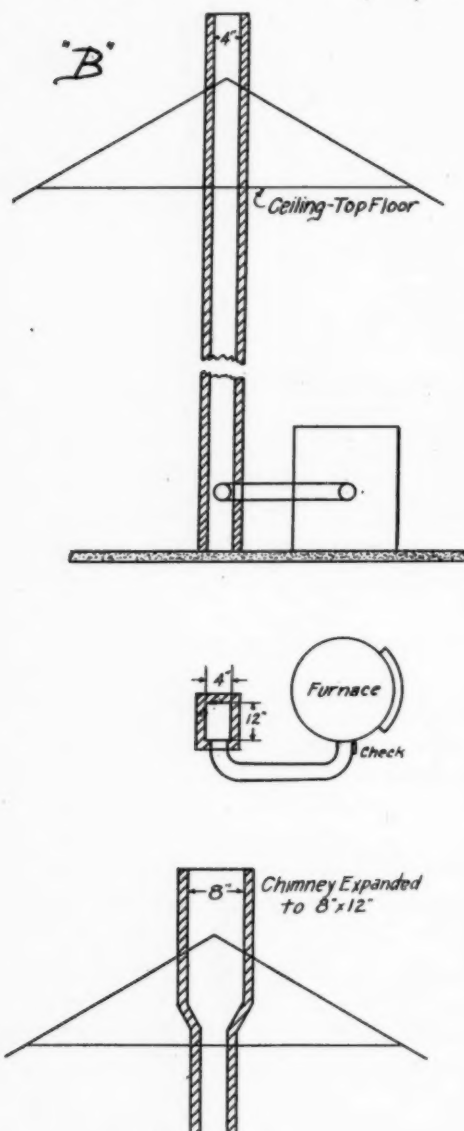


Sketches "A" and "B"—showing two chimneys. Both are 4 x 12 inches and start on the basement floor and continue through the first and second floors into the attic, where they have been rebuilt to 8 x 12 inches on through the roof at the comb or peak.

On sketch "A" a new No. 525 Jewell furnace, with 8 inch smoke pipe, was installed and connected

straight from the furnace into chimney and has a most excellent draft.

On sketch "B" a new No. 240 Round Oak furnace, with 8 inch smoke pipe, was installed and connected more indirectly into chimney from the furnace, in that it was necessary to use two 90° elbows to make this smoke pipe connection on account of the size of the furnace room and convenience to the coal



bin and cellar way. On this sketch, the smoke pipe is shown as being connected in on the 4 inch side, which is an error in making up the drawing, as the smoke pipe is connected in on the 12 inch side.

The point that I wish to bring out is that in each case an old 4 x 12 inch chimney is being used from the basement floor through two floors into the attic, where it is enlarged to 8 x 12 inches and in each case,

most excellent results are being obtained—and I feel that this may be information that may be of assistance to some one who may be having trouble of this kind.

The Jewell job has been installed for three years and the Round Oak job has been installed for two years.

C. R. OBERHOLTZER.

—, Indiana, December 18, 1922.

Warm Air Register Prices Are Lowered.

Prices on warm air registers, faces and borders have been revised, the new lists showing an average lowering of about twenty per cent, effective as of January first.

Invents Process of Forming Connecting Radiator Collars.

Robert W. Kruse, president of the Kruse Company, furnace manufacturers of Indianapolis, Indiana, has secured letters patent on a new process of forming connecting collars for radiators and feed doors on furnaces and like constructions which may become heated to a high degree.

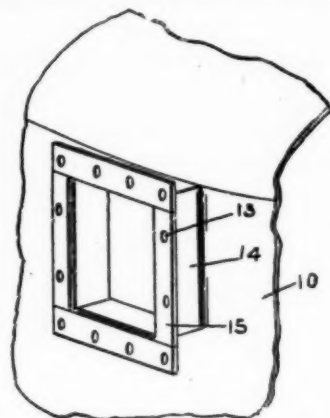
Difficulty has been experienced in using the common construction of riveting a cast iron connecting collar to the walls of the furnace, because of the different expansion of the two metals under heat, which will cause slight separation and warping and permit leakage, besides increasing the cost and time of production.

It is claimed for the new process that it will permit of the complete formation of the connecting collar from a simple stamping and welding process at a minimum cost.

The illustration reproduced here shows a section of the side walls bent outwardly. The process of forming the connecting collar from the same sheet of metal as is used in forming the walls of the furnace, consists in taking the blank sheet 10 and cutting therein a downwardly extending slot from the top thereof, and a cross slot at right angles and the bolt holes 13 on each side of the vertical slot.

The portions 14 of the metal 10

are then bent outwardly and perpendicular to the body portion so as to be substantially parallel and then bent nearly at right angles to form the flanges 15, substantially



New Process of Forming Connecting Radiator Collars Patented by Robert W. Kruse.

parallel to the body portion and at right angles to the parallel portions 14. This operation completes the formation of the side sections of the completed connecting collar.

Says Only a Few Think.

The average person of today does not think; he accepts the thoughts of others. That is the conclusion of President Marion L. Burton of the University of Michigan, says an exchange. The average person runs away from an idea he does not agree with, says Dr. Burton; he is afraid of unpopularity, failing to understand that popularity is merely the casual ideas of a great many people and does not make truth.

The active mind, the doctor adds, looks popularity in the eye and says 'go to —'; he thinks the truth regardless of popularity." A strong indictment but when you reflect how many people vote to be on the winning side and of like examples of the fear of unpopularity, it must be confessed Dr. Burton has it sized up about right. Have you ever, he asks, made a budget of your mind to see how much time you devote to thinking?

Not thinking what other people think, but reasoning things out for yourself, arguing both sides or all sides of a question and making up your mind for yourself.

Practical Helps and Patterns for the Tinsmith.

Aids to the Improvement of Craftsmanship and Business.
News from Various Branches of the Sheet Metal Trade.

Patterns for Washboiler Cover and Scale Scoop.

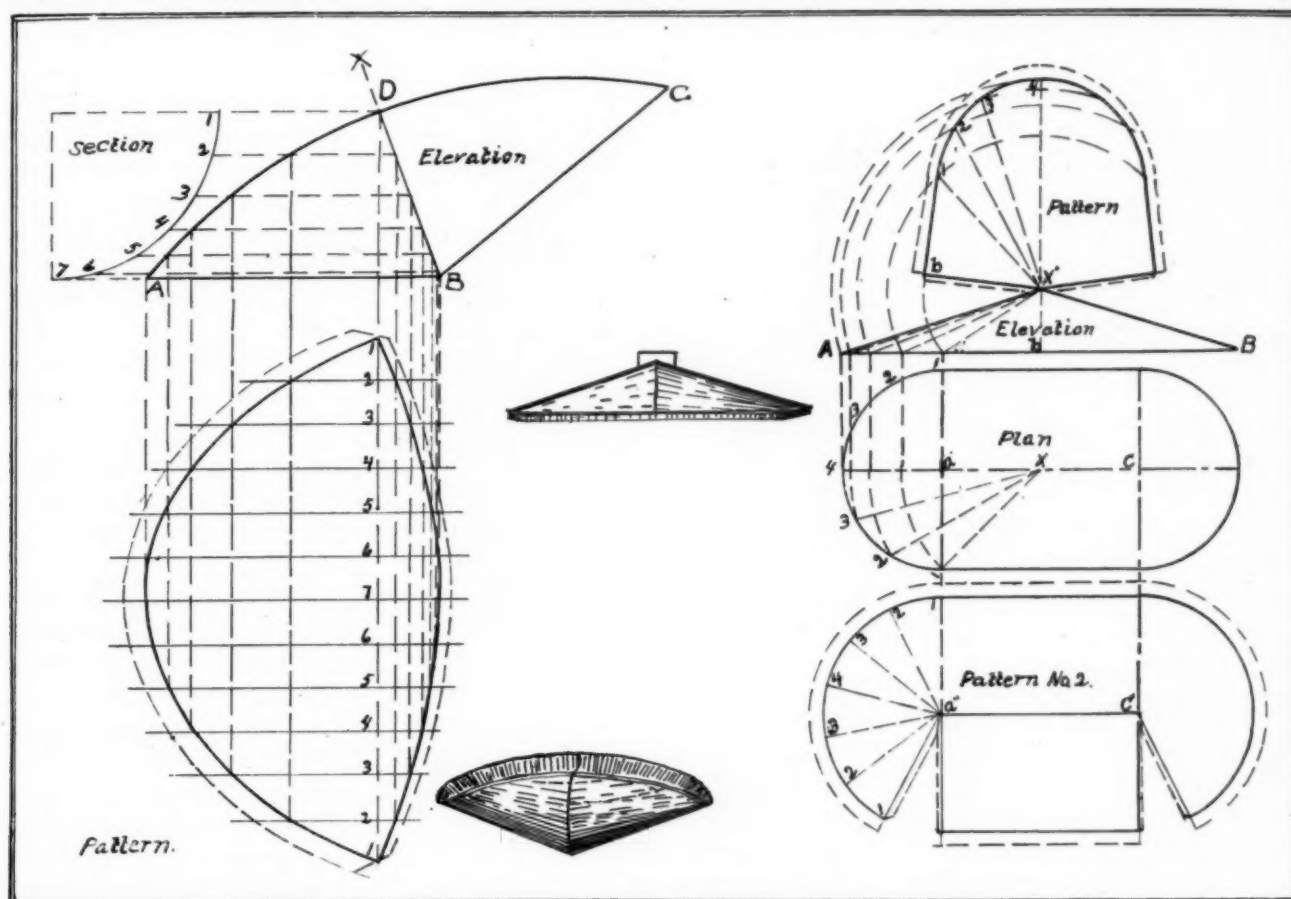
By O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

Washboiler covers and scale scoops are interesting problems for

this angle, establishing the miter D-D. Now measure the height of scoop as B-B and set the dividers to a radius by series of trials, or by intersections, and describe the arc A-D-C. Now this finishes the outline of scoop. From points B and D we project lines to the left and describe the quarter section and divide in any number of equal parts

of similar number. In the same way drop lines from each intersection at A-D, and this gives those intersections for the top edge of scoop. Sketch a uniform curve through these intersections and the pattern is finished, only laps for wiring and sealing must be allowed extra.

To make the layout for a wash boiler cover, we first draw a plan



Designs for Washboiler Cover and Scale Scoop.

development and they show further what can be done with metal by the adjustment of lines and the proper treatment of them. It is not always that a person is called on to make scale scoops but when each half of the scoop is considered as a lip for some purpose and that we develop the miters on the ends, the problem becomes more valuable.

Take the scale scoop drawing, we first draw the angle A-B-C to any desired inclination and then bisect

as 1-2-3-4-5, etc. From each of these points project lines parallel to A-B until they intersect the miter B-D and also the top line A-D. This gives all the intersections needed for the development of pattern.

To set off the pattern drop a line from D as 1-1 and on this line set off twice the girth taken from section. Through each of these points draw stretchout lines and then from each point in elevation miter as B-D drop lines to intersect stretchout line

giving the length and the width of the inside wire edge of boiler. Preferably the bottom should be measured because that is true to its original shape, while the top is often deformed. When the outlines of bottom are drawn and the ends are described from the ends a-c we divide one of the quarter circles in equal parts as 1-2-3-4. Using X as the center and each of these points as radius, we describe these lines to the center X-4.

Now the elevation can be made to any rise desired, but in this case $X'-b$ is the rise and so from each point in line 4-X of plan erect lines to the base A-B of elevation. From these new points draw lines to the apex X' and you have the true lengths for developing the pattern. By setting dividers to X' as center and each of these points in line A-b as radius, describe arcs indefinitely. Then erect a center line $X'-4$ in pattern and set dividers to one of the spaces as 1-2 and 2-3 of plan and setting one leg on point 4, walk the dividers from one arc to the other, and in this way establish points 3-2-1 in pattern. Now pick half the length of flat side from elevation as b-1 and set as 1-b in pattern. Then draw lines to X' and through all points thus established, sketch a uniform curve and the pattern is finished. Laps for peening the rim and locking the middle seam must be allowed extra.

This same method can be applied in laying out covers for hotel and restaurant kettles, especially steam tables, where the vessels are oval, or flaring with round corners, or other shapes. The same method would be used in the latter instances as in the former.

U. S. Makes Tests of Aluminum-Copper Alloys.

The 92:8 aluminum-copper alloy, known in the trade as No. 12, can be trusted to have an ultimate strength of 18,000 pounds per square inch and an elongation of 1 to 1.5 per cent in a 2-inch length, according to Robert J. Anderson, metallurgist, in Technical Paper 287, just issued by the United States Bureau of Mines.

Experiments made by the Bureau of Mines in the preparation of No. 12 alloy do not indicate that one rich alloy is any better than another for introducing copper, as regards dross losses and gas consumption. Small heats of No. 12 alloy may be made conveniently and cheaply by using light-gage copper sheet or punchings; the solid copper should be added to the liquid aluminum,

whereupon it will alloy at relatively low temperatures.

Where production is large, as in a foundry pouring 25,000 to 50,000 pounds of castings in 10 hours, it is safer to employ a rich alloy. The most convenient rich alloy available, taking into consideration brittleness,

melting point, and ease of calculation, is the 50:50 alloy.

The most desirable method of making up a heat is to charge all the materials together. Technical Paper 287 may be obtained from the Bureau of Mines, Washington, D. C.

Two Billion Pounds of Copper Used for Building and Other Purposes in 1922.

Six Billion Dollars' Worth of New Buildings to Be Constructed in 1923 Will Increase Demand.

By William A. Willis, Manager, Copper and Brass Research Association.

COPPER and its principal alloys, brass and bronze, will play a very large part in the world's industrial development during the next few years. This is clearly indicated, not only by what has happened during the past twelve months, but by what is known of the outlook in those industries which are listed as large consumers of copper and copper products. It may be said conservatively that the copper and brass industries enter the year 1923 in a more healthful and vigorous condition than they have enjoyed since before the war, and that the prospects ahead, so far as can be judged at this time, are most favorable.

Statistics of copper production and consumption as they appear from time to time are apt to be misleading. There are so many factors to be taken into consideration that the keenest analyst, fortified by the best obtainable information, is likely to go astray. But we know that 1922, all things considered, has been a remarkable year in copper, that copper stocks which were unduly large at the close of 1921 have been reduced about 350,000,000 pounds, and that American refinery production that has actually gone into consumption may be safely estimated at around 1,520,000,000 pounds. Consider for a moment that these figures do not include the consumption of scrap, always large, but unusually so in the past year, and it is seen that the consumption of American

copper during 1922 was upwards of 2,000,000,000 pounds. Add British, Australian, African and other foreign production not refined in the United States but actually marketed during the year, and we have a world consumption for twelve months which is somewhat staggering when we consider the sadly flattened out condition in which the war left the copper and brass industries.

There are certain American business enterprises which lie very close to the prosperity of the country as a whole. Copper is one of these, steel another, the railroads another. Depression in these industries reflects itself in business generally. It is, therefore, a matter of the greatest importance to our people that those industries which are basic in character, and which to a certain extent represent the national wealth, should prosper.

Out of the war grew a revelation that must have been a surprise to many business men. This was that the American market had potentialities hitherto unsuspected. Most American industries were built up to their present proportions on the idea that a certain percentage of their production would be taken outside of the country. It gave some folks a panicky feeling to realize that the great foreign markets on which they had always depended, might not be open to them again for a long time. Of course, if our great industrial plants were to be

kept in operation as usual, in these circumstances, it must be through an increased domestic consumption. And so American business men turned toward the development of the domestic market.

The response has been almost phenomenal. As a people we have developed powers of absorption that we did not know we possessed. The result has been to keep the United States in a pretty firm condition commercially when one considers the economic position of the world as a whole.

One of the encouraging aspects of the situation is the growing appreciation of quality in this country. Our people have come to realize that the best economy lies in using the best materials, that the slightly higher price of quality goods is more than made up for by their service and long life. Because the American people have become acquainted with these things about copper and other quality products, a better materials movement is well under way in this country.

In no one industry has this spirit manifested itself so strongly as in building construction, which in the past twelve months has been the most active of all American enterprises. Our people have always known of the menace of fire losses, but it is only in recent years that they have come to know that great as our annual fire losses are, they do not compare with the losses involved in the use of cheap materials. For instance, the rust loss in the United States alone is now known to be around \$600,000,000 a year, five times the fire loss.

In the building for 1923, which promises to be greater than ever before in the history of our country, copper, brass and bronze will play a very important part, as will other quality materials, because American investors in building enterprises have come to know that in the use of such materials lies the only real economy. The Copper and Brass Research Association has just completed a survey of the building during 1922 and the prospects for building in 1923, and is able to pre-

sent some very interesting figures on these points.

In 1922, statistics for eleven months of which are now available, there will have been spent for building construction \$4,910,000,000, and in addition to this it is estimated that there are projects for other buildings totaling \$2,480,000,000. In other words, in 1922 there was developed an actual building need of \$7,390,000,000. Of this huge amount some \$5,000,000,000 has actually been constructed and the remainder must be carried over into 1923 as a shortage. This shortage probably represents in actual figures \$1,980,000,000, for in estimating projects the cost is usually placed



William A. Willis.

on the safe side. It may also be assumed that a certain percentage of these projects will be indefinitely postponed, or that they will not come up in 1923, so that it seems fair to assume the acute shortage in building industry which is carried from 1922 to 1923, as \$1,240,000,000.

Using the 1922 figures as a basis and allowing for a rate of increase based on post-war construction, we get actual need in building and construction field of \$7,830,000,000. The figures are as follows:

Actual contracts let	
1922	\$4,910,000,000
Acute shortage carried over from 1922	1,240,000,000
Increase at normal rate	1,680,000,000
Total	\$7,830,000,000

Some time ago our Association issued a statement of probable building construction in the United States during the year of 1922 in the total sum of \$5,090,000,000. Based on the same classification as was used in this estimate, it will be seen that the building program for 1923 is made up as follows:

Apartment houses..	\$1,253,000,000
Churches	530,000,000
Dwellings	940,000,000
Hospitals	595,000,000
Hotels	851,000,000
Industrial	827,000,000
Office buildings....	804,000,000
Public buildings....	328,000,000
Public garages	162,000,000
Schools	1,540,000,000

Total

\$7,830,000,000
To complete such a vast total of building during the year 1923 presupposes that all the shortage will be made up and that the year 1924 will be started with a clean building slate. It is apparent that neither the financial nor material and labor resources of the country are in a position to carry this program to successful conclusion in the space of one short year. Moreover, it is apparent that the housing shortage has been relieved to a large extent and that similar easing off in the business field may be expected. There exists, however, a tremendous shortage of eleemosynary institutions, and we may look forward to a tremendous stimulus in this field.

The present resources of the country will take care of a building program in 1923, roughly estimated at \$6,000,000,000. Of this amount some \$2,300,000,000 will be devoted to housing, about \$1,600,000,000 to business buildings, and the balance of \$2,100,000,000 to churches, hospitals and schools. The estimated expenditures for building construction in 1923 throughout the United States are as follows:

Apartment houses..	\$ 960,000,000
Churches	406,000,000
Dwelling	720,000,000
Hospital	456,000,000
Hotels	652,000,000
Industrial buildings..	634,000,000

Office buildings.....	616,000,000
Public buildings.....	252,000,000
Public garages.....	124,000,000
Schools	1,180,000,000

Total\$6,000,000,000

This sum would be expended as follows:

New England State, \$455,000,000.

New England State, \$455,000,000.

Southwestern Connecticut, New York State, Northern New Jersey, Northern Pennsylvania, \$1,395,000,000.

Eastern Pennsylvania, Maryland, Delaware, District of Columbia, Virginia, North and South Carolina, \$825,000,000.

Western Pennsylvania, West Virginia, Ohio, Kentucky, Tennessee, \$755,000,000.

Illinois, Indiana, Iowa, Missouri, Wisconsin, Michigan, Kansas, Minnesota, \$1,600,000,000.

Montana, North and South Dakota, Eastern Nebraska, Eastern Kansas, \$250,000,000.

Pacific Coast States, Gulf States and Arkansas, Oklahoma, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico, \$720,000,000.

A building program of this magnitude will naturally absorb huge quantities of copper, brass and bronze. Meanwhile, the constant development of electrical enterprises means a constantly increasing consumption in this field. Think for a moment of the amount of copper wire that will be needed when people decide to harness the water power of the country, which they certainly will do before many more years pass. Add to this the foreign demand which will steadily increase as financial conditions improve, and it is not difficult to understand that the outlook for copper and copper products at this writing is most encouraging from every viewpoint.

Fine Calendar Specially Interesting to Sheet Metal Men.

A large, beautifully printed calendar has been prepared by the publicity department of the Youngstown Sheet & Tube Company.

This calendar is of special interest to sheet metal contractors, inasmuch as it shows by colored photoprints the most important steps in the manufacture of steel, sheets, bars, tubes and kindred products, together with short descriptions under each photograph of the method of production. Owing to the large cost these calendars will be distributed only to those who are really interested in these lines, but any sheet metal contractor or user of the other products of the company can obtain a copy—19½ x 24½ inches—by sending a request on his business letterhead accompanied by six cents in stamps, to the Youngstown Sheet & Tube Company, Stambaugh Building, Youngstown, Ohio.

Tin Industry in U. S., "War Orphan," Must Die.

Domestic production of tin was an outgrowth of the war. Prior to 1914 Bolivian tin mines sent their product to German and British smelters for treatment and the United States bought its sheet and other tin requirements in foreign markets, observes the Boston New Bureau. Opportunity came during rate of \$17 per ton of 60 per cent concentrates cheaper than American smelters can afford to handle it; this is equal to about \$24 a ton of sheet tin.

Two years ago there was produced in American smelters—numbering half a dozen—about 36,000,000 pounds of tin. Upon the completion of present contracts production of tin in this country is to cease. the war to import some of the Bolivian concentrates to the United States and the American Smelting & Refining Company set aside a section of its Perth Amboy smelter as a tin unit; the cost was around \$800,000.

Another tin smelter was constructed on Jamaica Bay, New York, which was owned jointly by the National Lead Company, Harvey Williams & Company and the Patino interests, who own and operate the largest tin properties in

Bolivia. The Patino group also has an important interest in the largest German tin smelter in Hamburg, but shipments thereto were, of course, impossible during the war.

The shippers of tin from Bolivia now find it to their advantage again to send their product to European smelters where they may obtain a

It was in the hope of protecting the industry, which started in 1916 in this country with a production of 4,522,000 pounds, that the American Smelting & Refining Company and other producers sought to get a two-cent per pound duty included in the present tariff bill, but in this they were unsuccessful. It would have amounted to no more than 6 per cent ad valorem, one of the lowest duties on the entire schedule.

And so the little infant industry must die.

Copper to Record Human Voice for 10,000 Years.

"Every language and dialect spoken in the world is being recorded on copper phonograph discs in Berlin by Prof. Wilhelm Doe-gen," says an editorial in the Paducah, Ky., *News-Democrat*.

"He says these copper records will last 10,000 years.

"If they do, and are played in the year 119922 will anyone except scholars be able to understand them? Ten thousand years from now speech may be a lost art, with people conversing by mental telepathy."

Romans First Makers of Brass in 20 B. C.

The Romans were the first makers of brass. Although they were unacquainted with the essential constituent, zinc, yet they had devised a means of producing brass by the melting of copper with a zinc ore (calamine), which yielded a yellow alloy of a more lustrous tint than bronze. Brass thus was made for the first time during the reign of the Emperor Augustus (20 B. C.-14 A. D.), and a coin of that period contains 17.31 per cent zinc.—*Chemical Age*.

What Repair Man Needs to Know About the Automobile Radiator.

E. E. Zideck Explains What It Is,
What It Does and How It Works.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by E. E. Zideck, Chicago.

Lesson V.

The Cooling Part of a Radiator— The Core.

THE main part of the radiator is its *core*.

The *core* is made of brass or copper. Usually the material of which the *core* is made is very *light*; practically as *thin* as paper.

Thin material is used in a *core*; because the thinner it is, the quicker is it penetrated by the heat of the water.

Questions.

1. What is the main part of the radiator?
2. Why is it the main part?
3. What does it do?
4. Of what is it made?
5. Why is it made of light material?
6. By what is it penetrated quicker, if light?

Tubular Fin and Cellular Cores.

The core of a radiator is constructed of numerous water channels with air passages enveloping same.

There are two kinds of core construction: the *tubular-fin core* and the *cellular core*.

The *tubular-fin core* is an arrangement of small size tubes or pipes running through numerous metal plates or *fins* and connecting the upper with the lower tank.

The *cellular core* is an arrangement of corrugated metal plates forming oblong openings for water to pass through, with openings of various patterns for air to envelop these.

Questions.

1. What are the two kinds of cores called?
2. What is a *fin* core?
3. What is a *cellular* core?
4. Through what pipes passes water from upper to lower tank in a *fin* core?

5. Through what pipes or tubes does the water pass from upper to lower tank in a *cellular* core?

6. What are *fins*?

7. Of what form are the metal plates of which the cellular core is constructed?

The Fins.

The thin metal plates, called *fins*, through which run the numerous tubes in a *fin* core, are spaced about three-sixteenths of an inch apart, in order to permit air to pass between them and around the tubes.

The *fins* contain no water. They are simple brass plates, thin as paper, edged over in front and back to make them stiff. In some cases there is a thin wire inlaid in the edges to make them stronger. These edged-over plates are full of holes for tubes to pass through and, in some cases, to permit greater air deflection.

Where the tubes pass through the plates, they are soldered or solder-baked to each other.

Questions.

1. What are *fins*?
2. How are *fins* spaced?
3. Why are *fins* thus spaced?
4. Is there any water in the *fins*?
5. How are *fins* strengthened in their edges?
6. What material is used for *fins*?
7. How are *fins* fastened to the water tubes?
8. Why are the *fins* perforated or punched with holes?
9. Do *fins* connect on to the tanks?
10. What, in a *fin* core, connect on to the tanks?
11. Are there many *fins* to a core?
12. Through what amount of tubes passes the water from the upper to the lower tank?

Fins and Head Sheets.

In a *fin* core, the tubes conduct

the water from the upper to the lower tank.

Fins are there to deflect the air and to catch the cold of the air, which, in turn, they impart to the tubes.

In a *fin* core, and in all *tubular* cores, but one, the tanks have heavier brass plates or *head-sheets*, perforated to admit the tubes. These are *soldered* tight to these *head-sheets*. The one exception, called the "Zarco" core, has *head-sheets* formed of the *fin-metal* and *solders* on to the tanks by thin metal, like the cellular cores do.

Questions.

1. What object have *fins* in a *fin* core?
2. To what are the tubes soldered at entrance to the tank?
3. What are the heavier brass plates called which admit tubes into the tanks?
4. In what does a *head-sheet* differ from a *fin* plate?
5. Are *head-sheets* soldered tight to the tanks?
6. Are *fins* soldered to the tubes?
7. How are tubes soldered to the tanks?
8. Are tubes soldered to *head-sheets*?
9. Are *head-sheets* soldered to tanks?
10. What, in a *fin* core, runs in a vertical direction from tank to tank?
11. What, in a *fin* core, crosses at right angles the tubes that connect tank to tank?
12. What is a *tubular-fin* core like?

(Lesson 6 in the next issue.)

There is a lot of hope for the man who says about a new idea that is proposed to him, "I don't believe it," and then goes home and tries it out.

Thomas I. Peacock Tells About Michigan Sheet Metal Auxiliary.

Thomas I. Peacock, President of the Auxiliary to the Michigan Sheet Metal and Roofing Contractors' Association, called at our office the other day and told us about some of the changes among the officials of the Auxiliary.

Wayne ("Brigham") Young, who was elected secretary at the 1922 Convention, is going to cover



Thomas I. Peacock.

Iowa for the U. S. Register Company, so found it best to resign, and W. W. Chalk, of W. J. Burton Company, has been appointed to act in his place until the 1923 Convention.

"Brigham" is a good scout, and we know that the Iowa boys will be glad to have him come into their organization, and Tom asks the Michigan boys to give Mr. Chalk full cooperation.

Incidentally, Tom has become a member of the Manny Heating Supply Company's organization and will cover Michigan and northern Indiana.

We were also informed that the Auxiliary is planning something very special for the annual banquet during the Michigan convention in Bay City, and that same up-to-the-minute skits are in course of prepa-

ration by the "funny" part of the Auxiliary, which we presume means Messrs. Warner, Laffin, Pierson, Doherty, et al., although Tom did not mention any names.

Name Michigan Sheet Metal Convention Committees.

F. E. Ederle, secretary of the Michigan Sheet Metal Contractors' Association, has forwarded the list of convention committees appointed by Adam Schepper, president of the Bay City Sheet Metal Contractors' Association, who will be hosts to the state convention in that city February 26—March 1, inclusive. The appointments follow:

Reception—J. P. Tossell, Mat. Walthers and William Whitney.

Entertainment—William Wanless, Jake Friend and Adam Schepper.

Hotels—Charles M. Hart, Mat Kelly and Oscar Laderach.

Finance—Herman Buelow, William Grove and N. E. LaPorte.

Publicity—Charles M. Hart, R. Schaefer and Charles Laderach.

Advertising—William Wanless, J. Duprow and J. P. Tossell.

Zinc Casket Preserved After 41 Years in Grave.

One of the leading burial casket manufacturing concerns in this country reports that about 1880 it built a number of caskets of sheet zinc, using a cast iron top and cast iron flanges to support the zinc in the body of the casket, and that it had recently received word from one of its customers that upon removing one of these caskets which had been buried for 41 years it had been found to be in good condition.

Notes and Queries

Bending and Welding Machines.

From Peter Stauber, 653 18th Street, Milwaukee, Wisconsin.

Can you advise me who makes a bending machine to bend one-half inch rod around window guard, also who makes welding machine to join the ends?

Ans.—Wallace Supplies Manufacturing Company, 412 Orleans Street, Chicago, Illinois. 2. Oxweld Acetylene Company, Jasper Place and 36th Street, Chicago, Illinois.

Mica.

From Foss and Jones, 28 East Union Street, Pasadena, California.

Kindly inform us where we can buy mica.

Ans.—Mikesell Brothers Company, 156 North LaSalle Street, Chicago, Illinois; U. S. Mica Manufacturing Company, 1521 Circle Avenue, Forest Park, Illinois; American Mica Products Company, 177 North State Street, Chicago, Illinois; Chicago Mica Company, Valparaiso, Indiana; and Eugene Munsell and Company, 542 South Dearborn Street, Chicago, Illinois.

Arcola Heating Outfit.

From Julius Hauser, Corner Fulton and Maryland Streets, Evansville, Indiana.

I should like to know who manufactures the Arcola Heating Outfit.

Ans.—American Radiator Company, 104 South Michigan Avenue, Chicago, Illinois.

Window Ice Boxes.

From Julius Hauser, Corner Fulton and Maryland Streets, Evansville, Indiana.

Please advise me who makes window ice boxes.

Ans.—M. Block and Son, 1017 Newberry Avenue; Henry Cohen and Company, 1817 South Dearborn Streets; Edward J. Baker and Company, 10 South La Salle Street, all of Chicago, Illinois, and F. H. Lawson Company, Cincinnati, Ohio.

Dampers for Stock Tank Heaters.

From Roy D. Bliss, Bliss and Son, Avon, Illinois.

Can you tell me where I can buy 5-inch and 4½-inch cast iron dampers for stock tank heaters?

Ans.—Adams Company, DuBuque, Iowa.

"Pecora" Furnace Cement.

From Chicago Furnace Supply Company, 1278 Clybourn Avenue, Chicago, Illinois.

Kindly tell us who makes "Pecora" furnace cement.

Ans.—Pecora Paint Company, 4th and Sedgley Avenue, Philadelphia, Pennsylvania.

Boisterous actions in a store are as much out of place as a bottle of bootleg whisky in a church pew.

The Latest News About Stoves and Ranges

Items and Discussions of Interest to the Manufacturer and Retailer of Kitchen Ranges, Heating Stoves and Accessories.

Brice L. Clutier Is New Advertising Manager with Malleable Iron Range Company.

Brice L. Clutier, who is well known as a specialist on stove and range advertising, has been appointed manager of the advertising department of the Malleable Iron Range Company, Beaver Dam, Wisconsin.

Merchants who sell Monarch and Paramount ranges will be interested in knowing that the cooperative selling and advertising service of this progressive company will be even better this year than its fine record during the past.

Charles E. Marentette of Art Stove Company, Dead.

The death of Charles E. Marentette, associated with the Art Stove Company of Detroit, Michigan, for twenty years, occurred December 29, funeral services being held Tuesday, January 2.

For the past fifteen years Mr. Marentette was general sales manager, and was well known to the hardware and furniture trade of the United States. He is survived by a wife and four children.

Wheeling Oven Line to Be Shown to Hardware Dealers.

The oven line of the Wheeling Corrugating Company of Wheeling, West Virginia, through their Chicago branch, will be displayed at the exhibits to be held in connection with the state retail hardware conventions of Wisconsin at Milwaukee, Iowa at Des Moines and Illinois at Chicago.

The exhibit of the Wheeling products will include a complete line of copper back and asbestos back gas heaters, as well as the air tight wood heater, equipped with an air regulator and down draft, as well as a check draft.

The new addition this year of the "Wheeling Super-Radiant Heater," made in three sizes, is announced. It is said the heater has been tested by the leading gas laboratories of the country and recommended.

The display will be in charge of A. J. Madson and George Waldmann, who will take orders and distribute souvenirs.

Free Kettle Sold Ranges That Reduced Price Would Not Sell.

One dollar reduction on a gas range is hardly sufficient to attract any attention, and without much question a stove would sell about as readily at \$87 as at \$86. Giving an aluminum kettle free with each range, however, is an entirely different matter so far as the ordinary customer sees it. The "something for nothing" appeal carried by a kettle free with each stove purchased, even if the kettle only costs a dollar, attracts many people who would pay no attention to a cash reduction of the same amount.

The Jury-Rowe Company, Battle Creek, Michigan, made use of this idea in pushing some gas ranges which hadn't been moving as rapidly as the management felt they should, with the result that ten of these stoves were sold the very first week after the premium was offered.

"We found that the free kettle attracted considerable attention," said Guy Williams of the range department. "On the other hand, newspaper advertising and window displays offering a special price didn't seem to do much good. Of course, this idea isn't particularly new, but it enabled us to sell ten stoves at the regular price where we hadn't been able to sell any at a reduction."

In carrying out the plan, a window display showing a few of the stoves and a number of the kettles that were to be given with them was

put in and newspaper advertisements tying up with the window display were used at the same time. The stock was given a good location on the main floor, every salesman was primed on gas ranges, and the result was about two sales a day for the week on an item which previously hadn't been moving at all.

Five Fundamental Features in Achieving Success.

Honesty.

Loyalty.

Work.

Knowledge of your business.

Belief in your business.

I place honesty first. If a man is honest with his employer, with the world, and—most important with himself, he is almost bound to succeed. If he is honest with himself he will give the very best in him. If he does that he is bound to go somewhere.

Loyalty is a by-product of honesty. If he is honest with himself and his employer the young man is loyal to his company. And unless he is devoted to his company he is not whole-heartedly in his work. He must realize that as his employers prosper so will he prosper and improve his position.

Work is necessary, but work alone will not do. System and efficiency are all right, but piling dollars just so or shoveling coal by so many tons will not suffice. There must be a higher objective than just getting by with the job at hand.

Know every angle of your business if you want to get to the top of it. If you are satisfied to be a bookkeeper you will likely remain a bookkeeper.

Believe in your business with all your heart. The charlatan doesn't get far in these days. You must have faith in the thing you are doing if you want to get somewhere.

Events and Progress of the Hardware Trade.

**What the Retailers, Jobbers and Manufacturers Are Doing.
Latest Selling Methods and Experiences of Successful Men.**

Gibb Instrument Company Buys Fred Pabst Line.

AMERICAN ARTISAN is advised by the Gibb Instrument Company, manufacturers of seam welders, of Bay City, Michigan, that they have purchased the business and patents of the automatic and semi-automatic electric arc welding manufacture operated by the Fred Pabst Company of Milwaukee, Wisconsin, and have contracted to act as sell-

ing agent for the Pabst line of patented covered electrodes.

The Fred Pabst Company has spent over two years in the development of this line of equipment, and the field of application is said to be very wide, embracing the welding of tanks, range boilers, barrels, drums and tubing.

The Gibbs Company has announced its intention to cover the entire field of electric welding equipment.

tive to 'Make 1923 the Greatest Paint and Varnish Year.' That way and that place is at home. The sales stimulation this will add to our efforts, the force of this example, will repay the cost many times over. This fact has been proved repeatedly by the outstanding examples among manufacturers, jobbers, painters and retailers who keep their property painted."

In announcing the details of, the campaign the Committee declared, "The first step in putting this plan into operation is the Save the Surface advertisement in the paint trade magazines for January. Paint clubs will be asked to launch this campaign during January among their members, by showing the Campaign motion picture film 'Brushin' Up' and securing local publicity. Manufacturers will be asked to bring this matter forcibly home to their employes. Salesmen will carry the message to retailers. In turn, master painters will make an active solicitation in the paint trade."

Thrift week, which begins on January 17, Benjamin Franklin's birthday and which will be celebrated all over the country, will lend further impetus to this internal drive of the paint trade.

The committee feels sure that the logic and need for this effort will have the hearty endorsement of the trade because it will induce consumers to a greater use of paint, it will show that painting can be done during the winter months, it will stimulate activity during the dull season and it will conserve property.

"No one thing we can do," the statement concludes, "will have greater influence in 'Making 1923 the Greatest Paint and Varnish Year.'"

Dishonesty is the densest form of ignorance.

Paint Your Own Place of Business if You Want to Sell More Paint in 1932.

*It Is a Case of "Take Your Own Medicine"
for Both Manufacturer and Retailer.*

"THE first thing the paint trade must do, if it expects to realize the greatest possible volume of business from the selling effort it will exert during the coming year, is 'take its own medicine', use its own products on its own properties, and so set the example that it is practicing what it is preaching through salesmen and the printed word."

With this definite and logical statement, just issued by the National Save the Surface Committee, a campaign is announced, starting in January, which has as its purpose the development of a large volume of new business from consumers.

"It's Our America, Let's Keep It Up." This is the theme of the co-operative national advertising of the paint trade for January. The statement continues, "The industry must get behind this message by painting its own property and equipment. Only in this way can the huge sums being expended for advertising by the entire paint trade be made to render maximum return in dollars.

"The force of example is a powerful thing. Can we expect others

to save their surfaces if we, the people who make and sell paint and varnish products, do not save our own surfaces, protect our own property? The time is here when the paint trade, so much before the public in the news and advertising pages of the press, must set this example. This applies to manufacturers, jobbers, painters and retailers and includes both personal and business property.

"The paint industry, believing as it does in paint and varnish, and urging the preservation of property through a greater use of paint and varnish as it is, cannot afford to have the public feel that we lack faith in our own products and point an accusing finger at unpainted stores and delivery trucks. The very first place that should receive the protection of paint is the place of business and residence of the man who makes or sells paint. The physical property of the paint industry should be the best painted property in the country and the industry cannot afford to have it otherwise.

"There is just one way and one place to begin to realize our objec-

Suggestions and Plans for Window Displays.

Instructive Examples from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

This Excellent Window Features Special Hardware Line.

Here is another 'most-year-round window trim that students and readers of this department may use as a profitable basis for study and analysis. And as the handiwork of its

It has the virtue of simplicity. It confines itself to the expression of one idea—to wit: the merchandising of one line of articles, in this instance a line of tools.

It shows a judicious use of the manufacturer's window cards, not

psychological appeal of the window.

Mr. Gress described the window briefly as follows:

"Featuring axes, hatchets, and hammers, this window was put in in the early fall. It was quite surprising as well as gratifying the re-



Special Line Window Design Constructed by Otto J. Gress for the Bunting Hardware Company, Kansas City, Missouri.

creator—Mr. Otto J. Gress of the Bunting Hardware Company of Kansas City, Missouri—it probably will be recognized as another of Mr. Gress' windows of special merit.

It is a window that is "different." It is a window that is inexpensive.

too many and placed with an eye to balance.

The log, the saw bucks, the hatchets, axes and hammers, the leaves—all have the tang of the outdoors and they suggest the spirit of hardware. This explains the strong

sults obtained. The floor is covered with leaves, from the ceiling and back hang boughs of bright Autumn foliage, which lend a touch of color. At night this window was dimly lighted, which added very much to the effect."

Paint Window Good for Contest—Good for Business.

While planning your entry—or entries—in AMERICAN ARTISAN AND HARDWARE RECORD's annual window display contest, consider a display of paints and brushes.

This is the time of year when indoor painting is, or should be, one of the most popular of indoor sports, and a suggestion of the same, by means of an attractive window trim, should bring about some good business.

A paint-and-brush window offers so many variations and ideas, the designer's problems are simplified, enabling him to work up an excellent trim. Nearly all paint manufacturers supply ideas on the window display of their products, and these dealer helps may be employed as a working basis.

The window display must be photographed, and the display may be made up of goods from any of the following lines: General hardware, machinists' supplies, builders' hardware, automobile supplies, sporting goods, fishing tackle, house furnishings and paints, cutlery, dairy supplies, stoves, ranges, warm air heaters, sheet metal or kindred lines.

The photograph, together with description of how the window display was arranged and the materials used, may be sent by mail or express, charges prepaid, and must reach this office *not later than April 1, 1923.*

Each photograph and description must be signed by a fictitious name or device and the same name or device must be placed within a sealed envelope containing the real name and address of the contestant, this sealed envelope to be enclosed with the photograph.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted in the contest.

Four prizes, totaling \$100, are to be awarded for the entries adjudged the most meritorious. These are: first prize, \$50; second prize, \$25; third prize, \$15, and fourth prize, \$10.

Buhl Sons Company Increases Capital Stock.

Announcement of an increase in capital stock is made by the Buhl Sons Company, well-known wholesale hardware dealers of Detroit, Michigan. The old capital stock was \$2,000,000 and the increase is to \$2,800,000.

Chicago Hardwaremen to Install New Officers.

The annual banquet and installation of officers of the Chicago Retail Hardware Association will be held Wednesday evening, January 10, at the City Club. The entertainment and program committee are expecting a large attendance to share in the ceremonies.

Thomas J. Ray, Well Known Hardware Manufacturer, Dead.

Thomas J. Ray, vice president of the Peck, Stow & Wilcox Company, of Cleveland, Ohio, and Southington, Conn., manufacturers of builders' hardware and tools, died December 23, after a week's illness from pneumonia contracted after an operation.

Mr. Ray was 45 years old. He entered the employ of Peck, Stow & Wilcox twenty-five years ago in an humble position, and worked his way up until, in 1920, he succeeded the late Lyman H. Treadway as vice president of the company and general manager of the Cleveland plant. He was a member of the leading civic and social clubs of Cleveland, and was a well-known figure at hardware conventions.

Explains Way to Prevent Frosting of Windows.

One of the questions uppermost in the mind of the retail dealer at the present time is the problem of keeping his store windows from freezing up.

Unless some preventative measures are taken, frost will form on the plate glass and completely obscure the articles in the window from the view of passersby.

This means a loss to the mer-

chant; a more serious loss than he may at first be inclined to think.

A window whitened with frost has absolutely no selling power, and people enter the store only when they have some definite need.

The loss can be measured by the use that the dealer makes of his store windows under normal conditions; but there will always be some loss, even for the most negligent in the matter of display.

It is a well-known fact that the frost is caused by the difference in temperature on the two sides of the glass. Moisture forms on the surface and this gradually freezes.

There are a number of devices adopted by certain dealers with more or less success.

Small openings above and below the plate glass serve to keep the atmosphere on both sides partially equalized, and thus prevent frosting to some extent.

There are disadvantages, however, which make this expedient inadvisable in many cases.

Another plan is to insert close to the window bottom a gas jet perforated with small holes an inch or so apart.

When lighted the jets prevent the moisture from solidifying on the inside of the window.

This method is an expensive one and never absolutely successful.

In severe weather the upper part of the window will frost over and the glass will, of course, be found frozen up every morning.

Here Is An Idea for a Sale Name.

Ofttimes, merely a different sales angle will enable you to clear your shelves of old stock. Most selling is done through an idea. If the idea takes hold of the public fancy the sale is made. If you want to move some merchandise now announce that you are holding "An Even Break" Sale on this merchandise. One way of advertising is to take some black enamel and draw a thin line across your window glass so it will appear as if it had been broken evenly. Use a sign that reads: "It Is an Even Break."

Link "Save the Surface" Campaign with Thrift Week.

National Thrift Week, beginning on January 17, Benjamin Franklin's birthday, will be observed in cities, towns and counties all over the nation. Magazines, newspapers, bankers, business men, merchants, churches, Y. M. C. A.'s and other organizations will unite in a great organized effort to conserve wealth and property.

The Save the Surface idea has a logical place in every thrift week observance, says *Save the Surface News*, and the paint and varnish trade should not pass this opportunity to stress the thrift of painting and varnishing. Every branch of the paint industry, every concern that joins with bankers and other interests that are active in promoting the idea and doctrine of thrift in a community, will gain both in prestige and volume.

Master painters and retailers especially should tie up with thrift week in their advertising and window displays. It would probably pay to send a letter to customers announcing a Thrift Week Special.

Coming Conventions

Western Implement and Hardware Association, Kansas City, Missouri, January 16, 17, 18 and 19, 1923. Exhibition in Convention Hall. H. J. Hodge, Secretary, Abilene, Kansas.

Texas Hardware and Implement Association, Dallas, Texas, January 23, 24 and 25, 1923. A. M. Cox, Secretary, 822 Dallas County Bank Building, Dallas, Texas.

Mountain States Hardware and Implement Association, Denver, Colorado, January 23, 24 and 25, 1923. W. W. McCallister, Secretary-Treasurer, Boulder, Colorado.

Kentucky Hardware and Implement Association and Exhibition, Jefferson County Armory, Louisville, Kentucky, January 23, 24, 25 and 26, 1923. J. M. Stone, Secretary, Sturgis, Kentucky.

West Virginia Hardware Association Convention and Exhibition, Huntington, West Virginia, January 30 and 31, and February 1, 1923. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

South Dakota Retail Hardware Association, Sioux Falls, South Dakota, January 16, 17, 18 and 19, 1923. H. O. Roberts, Secretary, 1120 Metropolitan Life Building, Minneapolis, Minnesota.

Idaho Retail Hardware and Implement Dealers' Association, Boise, Idaho, January 31, February 1 and 2, 1923. E.

E. Lucas, Secretary, Hutton Building, Spokane, Washington.

Indiana Retail Hardware Association Convention and Exhibition, Indianapolis, Indiana, January 30 and February 1 and 2, 1923. G. F. Sheely, Secretary, Argos, Indiana.

Oklahoma Hardware and Implement Association, The Auditorium, Oklahoma City, Oklahoma, January 31, February 1, 1923. W. A. Clark, Secretary-Treasurer, 209½ West Main Street, Oklahoma City, Oklahoma.

Nebraska Retail Hardware Association, Convention and Exhibition, February 6 to 9, 1923, Omaha, George H. Dietz, Secretary-Treasurer, 414 Little Building, Lincoln, Nebraska.

Michigan Retail Hardware Convention, Windsor Hotel, Jacksonville, Florida, 6, 7, 8, 9, 1923. Karl S. Judson, Exhibit Manager, 248 Morris Avenue, Grand Rapids. A. J. Scott, Secretary, Marine City, Michigan.

Virginia Retail Hardware Association, Norfolk, Virginia, February 7, 8 and 9, 1923. Thomas B. Howell, Secretary, Richmond, Virginia.

Wisconsin Retail Hardware Association, Milwaukee Auditorium, Milwaukee, Wisconsin, February 7, 8 and 9, 1923. P. J. Jacobs, Secretary, Stevens Point, Wisconsin. George W. Kornley, Manager of Exhibits, 1476 Green Bay Avenue, Milwaukee, Wisconsin.

Pennsylvania and Atlantic Seaboard Hardware Association Convention and Exhibition, Philadelphia Commercial Museum, Philadelphia, Pennsylvania, February 12, 13, 14, 15 and 16, 1923. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh, Pennsylvania.

Ohio Hardware Association Convention and Exhibition, Cleveland, Ohio, February 13, 14, 15 and 16, 1923. Exhibition in the new Municipal Hall. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

Illinois Retail Hardware Association Convention and Exhibition, Hotel Sherman, Chicago, Illinois, February 13, 14 and 15, 1923. L. D. Nish, Secretary-Treasurer, Elgin, Illinois.

Iowa Retail Hardware Association Convention and Exhibition, Des Moines, Iowa, February 13, 14, 15 and 16, 1923. A. R. Sale, Secretary, Mason City, Iowa. North Dakota Retail Hardware Association, Grand Forks, North Dakota, February 14, 15 and 16, 1923. C. N. Barnes, Secretary, Grand Forks, North Dakota.

Missouri Retail Hardware Association Convention and Exhibition, Planters Hotel, St. Louis, Missouri, February 20, 21 and 22, 1923. F. X. Becherer, Secretary, 5106 North Broadway, St. Louis, Missouri.

Minnesota Retail Hardware Association, Duluth, Minnesota, February 20, 21, 22 and 23, 1923. H. O. Roberts, Secretary, 1120 Metropolitan Life Building, Minneapolis, Minnesota.

New York State Retail Hardware Association Convention and Exposition, Rochester, New York, February 20, 21, 22 and 23, 1923. Headquarters, Powers Hotel. Sessions and Exposition at Exposition Park. John B. Foley, Secretary, City Bank Building, Syracuse, New York.

Indiana Sheet Metal Contractors' Association, Terre Haute, Indiana, February 21 and 22, 1923. Leslie Beach, Secretary, Richmond, Indiana.

Michigan Sheet Metal and Roofing Contractors' Association, Bay City, February 26, 27, 28 and March 1, 1923. Frank E. Ederle, Secretary, 1121

Franklin Street, S. E., Grand Rapids, Michigan.

Iowa Sheet Metal Contractors' Association, Sioux City, Iowa, March 14, 15, 1923. R. E. Pauley, Secretary, Mason City, Iowa.

American Hardware Manufacturers' Association, Spring Convention, Windsor Hotel, Jacksonville, Florida, April 24, 25, 26 and 27, 1923. Frederick D. Mitchell, Secretary-Treasurer, 1819 Broadway, New York City.

Southern Hardware Jobbers' Association and Exhibition, Grand Rapids, Florida, April 24, 25, 26 and 27, 1922. John Donnan, Secretary-Treasurer, Richmond, Virginia.

Old Guard Southern Hardware Salesmen's Association, Windsor Hotel, Jacksonville, Florida, April 25, 1923. R. P. Boyd, Secretary-Treasurer, R. F. D. 4, Knoxville, Tennessee.

Hardware Association of the Carolinas, Columbia, South Carolina, May 8, 9, 10 and 11, 1923. T. W. Dixon, Secretary-Treasurer, Charlotte, North Carolina.

Arkansas Retail Hardware Association, May, 1923. (Place to be announced later.) L. P. Biggs, Secretary, 815-816 Southern Trust Building, Little Rock, Arkansas.

National Retail Hardware Association, Richmond, Virginia, June, 1923. Herbert P. Sheets, Secretary-Treasurer, Argos, Indiana.

Southeastern Retail Hardware and Implement Association, covering Tennessee, Alabama, Georgia and Florida. (Date and place to be announced later.) Walter Harlan, Secretary-Treasurer, 701 Grand Theater Building, Atlanta, Georgia.

Retail Hardware Doings

Illinois.

The McCullough Hardware & Implement Company of Springfield have changed their firm name to the Torley Hardware Company.

Fire at the Greenleaf Hardware Company, 806-808 Fifteenth avenue, East Moline, caused damage estimated at \$12,000.

The hardware store of Ray Rollo of Prophetstown, and located at Thomas, has been destroyed by fire.

Iowa.

A. L. and G. L. Rule have sold their hardware store at Harlan to Messrs. Oliver Bacon and Casper Schwab.

R. W. Humphry has purchased the hardware store of Smith Brothers at West Union.

Michigan.

The Myrtle Hardware & Supply Company has opened a hardware store at 2051-57 Myrtle street, Detroit.

Keils & Son have purchased the Romeo Hardware Store at Almont.

Minnesota.

John D. Stadheim and Will Jensen have opened up their new North Side hardware store at Albert Lea.

J. H. Drier has sold his hardware store at Hamburg to A. C. Mielke of Waconia.

Wisconsin.

John and Joseph Wattawa have purchased the old Bock building at Manitowoc, and John will open a hardware store on March 1st.

Review of Conditions in the Metal Markets.

General Situation in the Steel Industry. Report of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

Non-Ferrous Metals Maintain High Levels.

The non-ferrous metals market continued strong throughout the week, maintaining or bettering the previous high levels. Electrolytic copper was quiet, with spot and nearby deliveries quoted at 14 to 14.75 cents. Tin was easy at \$38.62½ for spot and an eighth of a dollar higher for futures. Lead was steady at 7.25 to 7.50 cents. Zinc was quiet, with East St. Louis spot and nearby deliveries quoted at 7.05 to 7.10 cents.

Conditions in the principal non-ferrous metal industries in 1922 represented a considerable recovery from the sharp depression in these industries during 1920 and 1921. In the latter part of 1922 American consumption of copper, lead, zinc and aluminum reached rates in excess of all peacetime years and in many cases paralleled the activity of the peak war years.

Producers' stocks of metals in all lines were worked down to a few weeks' supplies by Dec. 31.

Copper.

Electrolytic copper prices fluctuated within narrow limits during most of the year, between 13.75 and 14.25 cents, delivered, dipping below 13 cents in the spring. Domestic output increased from about 20,000,000 pounds as of December, 1921, to nearly 100,000,000 pounds as of December, 1922. The American supplies, however, were augmented by increasing South American tonnage. The ability of one of the South American companies to produce as low as 6 cents a pound kept the market in check during the last half.

Sales of copper in 1922 amounted to about 1,650,000,000 pounds, of which 450,000,000 pounds were sold in the last quarter of the year, 365,000,000 in the third quarter, 490,000,000 in the second quarter and

350,000,000 in the first quarter. These sales, however, are subject to revision, especially those made in the last quarter, in which December is credited with 200,000,000 pounds.

Zinc.

The zinc industry experienced a decided recovery in 1922. As the year began smelter stocks amounted to 66,608 tons. These were reduced steadily to 18,043 tons on Nov. 1. In November there was a slight increase. Production, in the meantime, had risen from 22,013 tons in December, 1921, to 40,200 tons in November, 1922.

Shipments increased at the same rate. Prices advanced from 4.85 cents, East St. Louis, in December, 1921, to a high of 7.40 cents in November, reacting in December.

This week 7.05 cents was paid for prompt from west of the Mississippi on export business, though all January was available at 7.00 cents. Today offerings are in smaller volume, and it is likely that 7.05 cents can be obtained for all January. Futures are nominally on the scale of 5.00 cents per 100 pounds lower per month forward, and consumers have shown more inclination to contract ahead on this scale.

Lead.

The year's most important single development in the lead market was the increase in the duty from 25 per cent ad valorem to 2⅞ cents specific, on pig lead and base bullion. Consumption of lead was so heavy during the entire year that the lower cost American producers then operating could not meet the demand and considerable tonnages of Mexican and other foreign lead filled the gap.

The more attractive prices stimulated production of higher cost properties and as the year closed supply was more nearly ample.

Lead prices advanced from 4.70 cents, New York, in December, 1921, to 7.10 cents in December, 1922.

Solder.

Chicago warehouses quoted solder prices as follows: Warranted, 50-50, per 100 pounds, \$25.50; commercial, 45-55, per 100 pounds, \$24.00; and plumbers', per 100 pounds, \$22.75.

Tin.

The tin market pursued an erratic course during the year, London speculators controlling the world market most of the time. The United States, as in 1921, bought more than its proportionate supply of the world's tin, due to good tin plate and mixed metal business, whereas European tin consumption was curtailed. Straits tin prices advanced from 32 cents in December, 1921, to a high of 39 cents in the closing week of December.

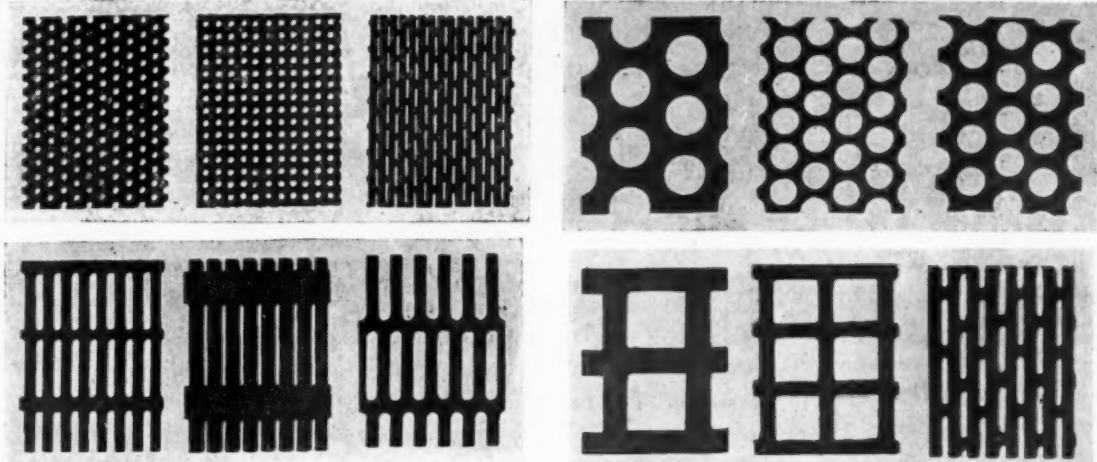
Nails and Wire.

Indications for heavy production of wire and nails in 1923 are read in all signs now present and preparations are being made to meet the needs of the country on a larger scale than ever before.

With the exception of the first quarter, wire and nails had an active market in 1922, with mills for the most part loaded with orders and deliveries deferred much beyond the period for which these products ordinarily are sold.

Prices pursued an interesting course and closed on a moderately higher level than they opened. Wire was quoted at 2.25 cents, Pittsburgh, as the year opened, with nails at 2.50 cents. In February nails were reduced \$2 to 2.40 cents, while wire held its place. This disturbed the usual differential until an advance of \$2 was made by independents in April on all but plain and galvanized wire, restoring the differential.

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Prices remained fairly steady on a double series of quotations, the American Steel & Wire Co. quoting 2.35 cents for wire and 2.60 cents, Pittsburgh, for nails, while independent prices were 2.50 cents and 2.75 cents, Pittsburgh.

Present quotations are 2.70 cents for wire nails and 2.45 cents for plain wire.

Tin Plate.

The year ended with the leading interest's tin plate output for the first quarter fully obligated, and with independents reluctantly closing business on the same level, but suggesting \$4.85 as a level interesting to them, on a \$36.50 or \$37.50 tin bar basis. They pointed out that the \$4.75 price started with tin bars at \$30 and when the latter reached \$40 tin plate at the same or lower levels was being sold at a loss.

Uninterrupted consumption and demand with output checked by car, steel, labor and fuel shortage, featured the market for tin plate in 1922. However, production will compare favorably with large production years, since ground lost in 1921 partially was regained. Estimated production for the year was in excess of 1,250,000 tons.

When final tabulations are made, shipments undoubtedly will exceed production by several hundred thousand base boxes. In the case of the American Sheet & Tin Plate Co., December rollings held for shipment after Jan. 1, together with subsequent heavy rollings, gave it the third best first half-year in its history.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$18.00 to \$18.50; old iron axles, \$24.00 to \$24.50; steel springs, \$20.50 to \$21.00; No. 1 wrought iron, \$16.50 to \$17.00; No. 1 cast, \$18.50 to \$19.00, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; light brass, 5 cents; lead, $4\frac{3}{4}$ cents; zinc, $3\frac{3}{4}$ cents; and cast aluminum,

14 cents. The demand for nearly all lines is heavy.

as low as \$27, and, it is rumored, to \$26. The market for low phosphorous iron is dull, at \$37, delivered, for domestic and \$36 for imported.

Sheets.

Pittsburgh sheet prices opened the year as follows: Black, \$3.30; blue annealed, \$2.50, and galvanized, \$4.35.

Outstanding among the features of the sheet market in 1922 was the sustained and ever-increasing demand for full-finished automobile

sheets and other grades used in automotive construction. The large and widespread consumption of galvanized and other sheets utilized in building houses, garages, apartments and industrial structures likewise is noteworthy.

The movement in this direction started in 1921, gathered impetus and forged ahead to a commanding place in the operation of hot sheet mills for the greater part of 1922. Other grades, including the specialties, were in more or less keen demand throughout practically all of the year 1922.

1923 Expected To Approximate, If Not Exceed, Greatest Iron and Steel Production On Record.

Review of Industry Shows All Consuming Lines Planning Ever-Increasing Programs.

CONTEMPLATION of another year affords producers considerable encouragement. The high producing and selling rate with which 1922 ended promises to continue. All consuming lines apparently are planning ever-increasing programs and, barring unforeseen contingencies, iron production in 1923 will approximate, if not exceed, the highest on record.

The price of No. 2 foundry throughout the first quarter of 1922 remained close to \$19. In April it was increased to \$22 and for the next three months \$24 to \$25 was obtained, but in August as high as \$30 and \$33 were the usual market prices. In September lower price levels commenced to be quoted, led by steelmakers, and in October and November declines became a matter of weekly record, until in December \$25 and even \$24.50 became prevalent. The record in malleable was substantially the same.

"In the amount of new buying, in the rate of works operations, and in expectations that the steel trade has of the future, the first week of 1923 is in marked contrast with that of 1922," the *Iron Age* says. "Leading steel companies have assurance of activity on a large scale for at least the first quarter and believe

the momentum will carry them further. Substantially 200,000 tons were taken in recent buying of an automobile company, while another company is negotiating for 150,000 tons for first quarter delivery. A number of railroads are buying lots of several thousand tons for repair and other shop work."

Pig iron output in December showed another marked gain, being 99,577 tons a day, compared with 94,990 tons a day in November. December was the first 3,000,000 ton month since October, 1920. Pig iron production in 1922 was a little more than 27,000,000 tons, compared with 16,688,000 tons in 1921. In steel output 1922 nearly duplicated 1919, with about 33,500,000 tons of ingots and not far from 24,500,000 tons of finished rolled products. The number of furnaces in blast on Jan. 1 was more than double that a year before, being 253, compared with 125.

"The steel industry enters the new year in the most favorable position in at least two years and has most cheerful prospects for future operations and profits," the *Iron Trade Review* says. "New business has kept up strongly. Railroad car awards in the last week totaled over 10,000."